USDA

United States
Department of
Agriculture

Forest Service

Pacific
Southwest
Region

R5-BOT-TP-007

August 1999

Rare Plant Handbook

Plumas National Forest

QK
86
.P5
1999
C.1

RMO

Plumas National Forest

Rare Plant Handbook

Edited by
Linnea Hanson

U.S. Forest Service
Pacific Southwest Library and Information Center
1323 Club Drive
Vallejo, CA 94592-1110

National FS Library
USDA Forest Service

JUL 18 2012

240 W Prospect Rd
Fort Collins CO 80526

August 1999

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Acknowledgements

Dedicated to:
We would like to thank Vern Oswald, Lowell Ahart, and Glenn Clifton for their botanical knowledge of the Plumas National Forest flora that they have shared with us through the years.

Contributions by:

Paula Brooks
Dean Carrier
Barb Castro
Beth Corbin
Hal Durio
Loren Gehrung
Julia Green
Linnea Hanson
Jerry Hustafa
Lawrence Janeway
Diane Mastalir
Brad Schafer
Stacy Scott
Jim Shevock
Greg Treber

Formatting By:

Kevin McCormick

INTRODUCTION

There are nearly 1,800 different kinds of plants living in the Plumas National Forest (PNF). Most of these are common and widespread, but there are a few species that require special attention. One plant on the PNF is federally listed as threatened. Other species have populations that are either sensitive (potential candidates for federal listing as endangered or threatened), or they are designated as Special Interest Category 1 which is a PNF category for species that are newly described, locally rare but more widespread elsewhere, or more information is needed to determine their status. The PNF Land and Resource Management Plan (LRMP) requires that we manage the forest to maintain biodiversity and to protect sensitive and special interest plants. This management direction follows the guidelines of the Endangered Species Act of 1973, which authorizes all federal agencies and departments to conserve threatened or endangered species.

As part of the PNF Ecosystem Management Team, the Botany Program group is responsible for the protection and management of threatened, endangered, sensitive, and special interest plants. To do this, we keep track of population changes and maintain files of plant distributions and other ecological information. Constant monitoring is essential, so when more people are out in the forest looking for these rare plants, we become more effective managers. This is why the development of our rare plant handbook is a significant part of our efforts to monitor, manage, and protect the rare plants of the PNF.

WHY THESE PLANTS ARE IMPORTANT

A famous ecologist once said that there are four main arguments for the preservation of species. The first is that simple compassion demands their preservation, that other products of evolution also have a right to existence. The second is that other species should be preserved because of their beauty, symbolic value, or intrinsic interest. This is the argument from esthetics. The third argument is economic. Save the plants because of the tremendous potential for as yet undiscovered foods and drugs that could be extracted. This is the direct benefit to humans argument. Fourthly, and most importantly, is that other species are living components of vital ecological systems. Species are the building blocks of an interconnected system so that the loss of one species could have unforseen effects on the rest of this system.

HOW TO USE THIS HANDBOOK

This handbook describes the federally listed threatened, sensitive, and category 1 special interest plant species that are known or suspected to occur in the PNF. The book is organized into three sections: the first is the federally listed threatened plant, the second section is the sensitive plant species, and the third section is the special interest category 1 plants. The plants in each section are alphabetically arranged, and all have a line drawing or photograph associated with them. Words in all capital letters indicate a distinguishing feature of the species. We tried to avoid technical terms in the plant descriptions, but some were necessary. A glossary of scientific terms used in the descriptions is included in the handbook, along with a plant list index. The book is small enough to take with you to the field, and we encourage you to do so. If you think you have found one of these plants, please contact your district botanist. Remember that positive field identification of many plant species is best during the flowering season. The status of plants is constantly changing based on new information. You will be notified of any additions or deletions to these lists. We hope to include special interest Category 2 plants in the next handbook update.

PLUMAS NATIONAL FOREST
JUNE 1998

FEDERALLY LISTED THREATENED

Scientific Name	Common Name
Senecio layneae	Layne's ragwort

SENSITIVE

Allium jepsonii	Jepson's onion
Arabis constancei	Constance's rock cress
Astragalus lentiformis	lens pod milk-vetch
Astragalus pulsiferae var. pulsiferae	Pulsifer's milk-vetch
Astragalus pulsiferae var. suksdorfii	Suksdorf's milk-vetch
Astragalus webberi	Webber's milk-vetch
Botrychium ascendens	upswept moonwort
Botrychium crenulatum	scalloped moonwort
Botrychium lineare	linearleaf moonwort
Botrychium montanum	mountain moonwort
Calycadenia oppositifolia	Butte County calycadenia
Calystegia atriplicifolia ssp. buttensis	Butte County morning-glory
Clarkia biloba ssp. brandegeae	Brandegee's clarkia
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia
Clarkia mosquinii	Mosquin's clarkia
Clarkia stellata	starry clarkia
Cypripedium fasciculatum	clustered lady's-slipper
Cypripedium montanum	mountain lady's-slipper
Fritillaria eastwoodiae	Butte County fritillary
Ivesia aperta var. aperta	Sierra Valley ivesia
Ivesia sericolueca	Plumas ivesia
Ivesia webberi	Webber's ivesia
Lewisia cantelovii	Cantelow's lewisia
Lupinus dalesiae	Quincy lupine
Monardella follettii	Follett's wild mint
Monardella stebbinsii	Stebbins' wild mint
Oreostemma elatum	Plumas alpine-aster
Penstemon personatus	closed-lip penstemon
Pyrrocoma lucida	sticky pyrrocoma
Rupertia hallii	Hall's rupertia
Scheuchzeria palustris var. americana	American scheuchzeria
Sedum albomarginatum	Feather River stonecrop
Senecio eurycephalus var. lewisrosei	cut-leaved butterweed
Silene occidentalis ssp. longistipitata	long-stiped catchfly
Vaccinium coccineum	scarlet huckleberry

SPECIAL INTEREST-Category 1

Allium sanbornii var. sanbornii	Sanborn's onion
Astragalus whitneyi var. lenophyllus	Sierra Whitney's milk-vetch
Balsamorhiza macrolepis var. macrolepis	big-scaled balsamroot
Botrychium lunaria	common moonwort
Botrychium minganese	Mingan moonwort
Botrychium pinnatum	northern moonwort
Botrychium simplex	Yosemite moonwort
Cardamine pachystigma var. dissectifolia	dissected-leaf toothwort
Clarkia mildrediae	Mildred's clarkia
Claytonia palustris	marsh claytonia
Claytonia umbellata	Great Basin claytonia
Cupressus bakeri	Baker cypress
Erigeron inornatus var. calidipetris	hot rock daisy
Erigeron lassenianus var. deficiens	Plumas rayless daisy
Erigeron petrophilus var. sierrensis	Serpentine rayless daisy
Hackelia amethystina	amethyst stickseed
Ivesia baileyi var. baileyi	Bailey's ivesia
Lewisia kelloggii ssp. hutchisonii	Hutchison's lewisia
Lilium humboldtii ssp. humboldtii	Humboldt lily
Mimulus glaucescens	shield-bracted monkeyflower
Mimulus pygmaeus	Egg Lake monkeyflower
Perideridia bacigalupii	Bacigalupi's yampah
Rhynchospora capitellata	brownish beaked-rush
Silene invisa	cryptic catchfly
Trifolium lemmonii	Lemmon's clover
Viola tomentosa	woolly violet

Glossary

Alluvium. A deposit of sand, mud, etc. formed by flowing water.

Annual. Completing life cycle in one year or growing season, essentially non-woody.

Anther. Pollen-forming portion of a stamen.

Ascending. Curving or angling upward from base.

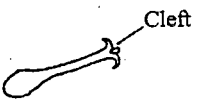
Basal. Found at or near the base of a plant or plant part.

Bract. Small, leaf- or scale-like structure associated with an inflorescence or cone.

Calyx. Collective term for sepals; outermost or lowermost whorl of flower parts. Generally green and enclosing remainder of flower bud.

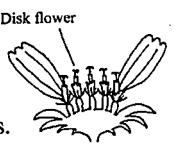
Claw. Hook-like projection.

Cleft. Deeply divided or cut about half way to the midrib.



Crown. The point at which the root of a seed plant joins the stem, usually at ground level.

Disk flower. Small flowers in the center of a sunflower head.



Ecotones. A transition zone between two different plant communities.

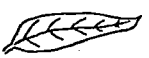
Glandular. Bearing glands or gland-like.

Herb. Plant with little or no wood above ground; above ground parts are of less than one year or growing season duration.

Herbaceous. Lacking wood; having the characteristics of an herb.

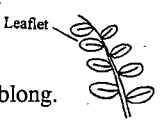
Inflorescence. An entire cluster of flowers and associated structures; eg., axes, bracts, pedicels.

Lanceolate. Widest in the basal half, often tapered to a tip.



Leaflet. One leaf-like unit of a compound leaf.

Linear. Elongate, with nearly parallel sides, and narrower than oblong.



Oblong. Longer than wide, with nearly parallel sides and rounded corners; wider than linear.

Nectary. Structure that secretes nectar, often near the base of an ovary or in a perianth spur. Nectar is a nutritive solution consumed by animal visitors that are often pollinators.

Glossary (cont)

Nutlet. Small, dry nut (or nut-like fruit), generally one of several produced by a single flower.

Pedicel. Stalk of an individual flower or fruit.

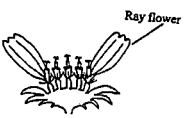
Perennial. Living more than two years or growing seasons.

Petiole. Leaf stalk, connecting leaf blade to stem.

Pistils. The ovule-bearing or seed-bearing organ of a flower.

Prostrate. Lying flat on the ground.

Ray flower. Flowers on the rim of a sunflower head that have a long petal.



Rosette. A radiating cluster of leaves generally at or near ground level.

Scree. A steep mass of rock on the side of a mountain.

Sepal. Individual member of the calyx, whether fused or not, generally green.

Sessile. Without a petiole, or other kind of stalk.

Sphagnum. Any soft moss of the genus *Sphagnum*, found chiefly on the surface of bogs.

Spikelet. Smallest aggregation of flowers and associated bracts.

Stamen. Male reproductive structure of a flower, typically composed of a stalk-like filament and a terminal, pollen-producing anther.

Vernal. Pertaining to spring.

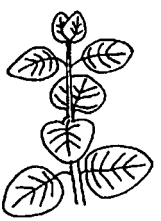
Whorl. Group of three or more structures of the same kind (generally leaves or flower parts) at one node.

Abbreviations

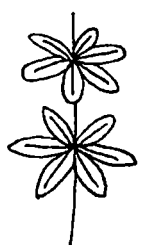
cm	centimeter
dm	decimeter
ft	feet
m	meter
mm	millimeter
NFFR	north fork of the Feather River
ssp.	subspecies
var.	variety

Leaves Alternate

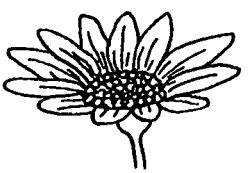
Leaves Opposite



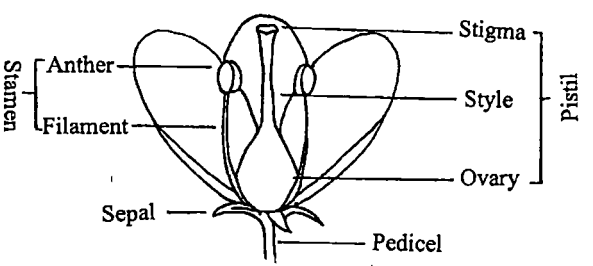
Leaves Whorled



Sunflower head



Parts of a Flower



Botrychium crenulatum

Scientific Name: *Botrychium crenulatum* Wagner

Common Name: Scalloped moonwort

Family: Ophioglossaceae (adder's-tongue family)

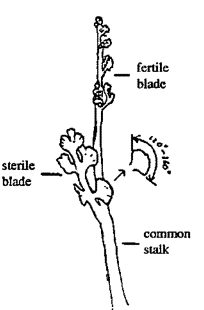
Distribution: GLOBAL — Scattered but not common anywhere. Cascade Range & Sierra Nevada, in Tehama, Butte and Tulare Counties, California, and in the San Gabriel Mountains in Los Angeles County, and San Bernardino Mountains north to Washington and east to Idaho and Utah.
PNF — Not known on the PNF, nearest known location near Jonesville in Butte County
DISTRICT— None

Habitat: Found on rises and tussocks in wet mountain meadows, boggy areas and marshes, either on hillsides or flat lands. Also found on moist creek banks and in adjacent mixed conifer forest. May be growing on patches of moss, or be hidden by taller grasses, sedges and rushes. Moonworts are sensitive to drought and may not appear in dry, hot years.

Elevation: 1220-2290 m (4000-7500 ft)

Key Features: All Botrychia (moonworts) are VERY SMALL, THIN AND DELICATE, PRIMITIVE FERNS, LESS THAN 10 CM (4 IN) TALL. FERTILE (SPORE BEARING) AND STERILE (LEAFY) BLADES ARE SEPARATE. *B. crenulatum*: fertile and sterile blades diverge from each other near, or usually above the middle of the plant. Lower leaf segments widely fan-shaped, the segment margins meeting at an angle of 120-160° to each other. Leaf segment margin scalloped to toothed. Scalloped moonwort is yellowish or yellow-green. Consult an expert to verify identification.

NOTE: It is not unusual to find several species of moonworts growing together. At the Jonesville site, *B. multifidum* (leather grape-fern), *B. simplex* (Yosemite moonwort), *B. ascendens* (upswept moonwort), *B. crenulatum* (scalloped moonwort), *B. minganense* (Mingan moonwort) and *B. montanum* (mountain moonwort) all occur together. Leather grape-fern and Yosemite moonwort are both found on the Plumas Forest. Leather grape-fern is the only relatively common moonwort on this Forest. It is found on edges of meadows, swamps, lakes and streams. Yosemite moonwort is known from two sites on the Feather River District, near Little Grass Valley Reservoir and near Camel Peak. The other species (*B. ascendens, crenulatum, minganense, montanum*) may possibly be found on the Plumas since they occur nearby. All of these are rare species. Several other rare *Botrychium* species also known from California are; *B. lineare* (linearleaf moonwort), *B. lunaria* (common moonwort) and *B. pinnatum* (Northwestern moonwort). All of these species are described and illustrated on the following page.



Look-alikes: see next 2 pages.

Fruiting: Summer

Other *Botrychium* (Moonwort) Species

Botrychium ascendens (upswept moonwort) Yellow-green color. Fertile and sterile blades diverge near or above middle. Lower leaf segments narrowly fan-shaped, 40-100°, tips angled, irregularly toothed, ascending. Found in CA, OR, NV, ID, MT, WY and western Canada and Alaska (western distribution). In California, known from Tehama, Butte and Eldorado Counties.

Botrychium lineare (linearleaf moonwort) Pale green. 4-6 pairs of leaf segments, each pair widely separated from the next by 2-5 times the segment width. Leaf segments mostly straight, slightly upcurved and narrowly linear. Tip of segment sometimes split into 2 spreading, linear lobes. Found in CA, OR, ID, MT, UT, CO and in eastern Canada. In California, known only from Fresno County. Newly discovered and described (1994). Habitat varies. Very rare, only 85 plants found throughout its range so far.

Botrychium lunaria (common moonwort) Dark green. Known by its moon-shaped (greater than a half circle) leaf segments. Upper segments often overlap. Found in all western states, across northern states, in Canada, Alaska and Greenland. Northern and southern hemisphere (global distribution). In California, known from Modoc, Nevada, Tuolomne and Mono Counties.

Botrychium minganense (Mingan moonwort) Pale green. Fertile and sterile blades diverge near or above the middle. Lower leaf segments are narrowly fan-shaped, 40-100°, tips rounded and smooth. Found in all western states, across northern states, in Canada and Alaska (continental distribution). In California, known from Tehama, Butte and Fresno Counties.

Botrychium montanum (mountain moonwort) Gray-green with a succulent texture. Smallest moonwort. Rarely more than 2 pairs of leaf segments. Fertile and sterile blades separate from near, to just below, the middle of the stem. Leaf segments are narrow, with margins nearly parallel, and with irregularly angled tips (shaped like a parallelogram). Found in CA, OR, WA, MT and BC (western distribution) In California, known from Tehama and Butte Counties.

Other *Botrychium* (Moonwort) Species (cont.)

Botrychium multifidum (leathery grape fern) Dark green, glossy, evergreen. A taller (2x or more) moonwort with larger, more divided (3-4 times) sterile blades. Large, stout, coarse plant, fleshy and leathery, with a generally "leafier" look, not tiny and delicate like the moonworts. (*B. virginianum* is a similar, widespread species, but hasn't yet been found in California.) Leathery grape fern is found in all western states, North and South Dakota, Nebraska, across the northern states and south on the eastern seaboard to North Carolina. Canada, Alaska, Greenland and Europe (Northern Hemisphere). In California, known from many counties, in the north and south Coast Ranges, in the Klamath mountains, the Cascades, Modoc plateau, and the Sierra Nevada.

(not illustrated)

Botrychium pinnatum (northern moonwort) Green. Lower stalk, below divergence of fertile and sterile blades, is reddish brown. Sterile blade sessile (lacking a "leaf stem"), leaf segments are variously toothed to lobed to pinnatifid (appearing to be divided into smaller segments), with a midrib. Found in CA, OR, WA, ID, MT, WY, NV, UT, CO, AZ, western Canada and Alaska (western distribution). In California, known from Siskiyou County.

Botrychium simplex (Yosemite moonwort) The fertile and sterile leaf segments diverge near the base of the plant. The sterile blade divides into 3 parts (although young plants may only have 1), each with fan-shaped leaf segments. Found in CA, OR, WA, ID, MT, WY, NV, UT, CO, NM, SD, many northern and eastern states, much of Canada, also in Alaska, Greenland, Europe and Japan (Northern Hemisphere). In California, known from Modoc, Shasta, Tehama, Plumas, Butte, El Dorado, Alpine, Tuolomne, Mono, Mariposa, Madera, Fresno, Tulare, Inyo, Kern, San Bernardino and Ventura Counties.

NOTE: *Botrychium* species often occur together in one spot, and they can be hard to tell apart because they are variable in form. The variability is caused by both environmental differences and differing developmental stages. Young plants may have fertile blades, even though they are small and poorly developed. Look for more than one individual before attempting identification. Many moonworts have wide distributions, but occurrences of all moonwort species are widely separated, rare locally, and usually small in number of individuals.

Botrychium crenulatum

Photo: P.Brooks

Senecio layneae

Scientific Name: *Senecio layneae* E.Greene

Common Name: Layne's butterweed

Family: Asteraceae (sunflower family)

Distribution: GLOBAL — Yuba, El Dorado and Tuolomne Counties, California
PNF — Just off PNF in Brownsville.
DISTRICTS — Possibly on low elevation serpentine on Feather River Ranger District

Habitat: SERPENTINE and gabbro-derived soils in open, upper foothill woodland, or lower mixed-conifer forest.

Elevation: 180-915 m (600-3000 ft)

Key Features: Perennial, sprouts from rootstock. 1 to few erect stems, 3-7 dm (1-2.5 ft). Plant somewhat WOOLLY-HAIRY (hairs intertwined like felt) when young, less hairy after flowering time. Leaves lanceolate, with toothed edges. Most leaves at base of plant, with stem leaves becoming reduced upwards. Upper leaves pointed at tip and ear-like at base. Basal leaves thick, dark green above, may be paler beneath. Flowers; 5-20 flower heads in an open cluster. Each flower head with RAY FLOWERS and disk flowers. Ray flowers golden-yellow, 5-8 per head, showy.

Look-alikes: *Senecio eurycephalus* var. *lewisrosei* (cut-leaved butterweed) is also found on serpentine, but looks very different from Layne's butterweed because its leaves are finely divided into small segments. *Senecio integerrimus* (single-stemmed ragwort) and *S. aronicoides* (California butterweed) are both common on the PNF and could be mistaken for Layne's butterweed. However, these 2 species are found in open forests, and not on serpentine. They occur at the same elevations as Layne's butterweed, but can also grow higher (up to 5000 ft. for single-stemmed ragwort and 7000 ft. for California butterweed). California butterweed and single-stemmed ragwort can both be hairy, with the hairs falling off later in the season, but neither one is woolly-hairs (woolly hairs also may fall off as season progresses), like Layne's butterweed. California butterweed lacks ray flowers (or may only have 1 or 2 per head), and single-stemmed ragwort has from 8-13 ray flowers per head, but may also rarely have none. Identification is difficult. Layne's butterweed is Federally listed as threatened, and should not be picked. Consult an expert for identification.

Flowering Time: April through June

Senecio layneae

Photo: L.Hanson

Photo: L.Hanson

Allium jepsonii

Scientific Name: *Allium jepsonii* (Traub) Denison & McNeal

Common Name: Jepson's onion

Family: Liliaceae (lily family)

Distribution: GLOBAL — Butte and Tuolomne Counties, California
PNF —East of Magalia Reservoir; east of Concow Reservoir; Jarbo Gap; Bardees Bar; Pulga; near Big Bar Mountain and Hungry Hunt Peak.
DISTRICT — Feather River Ranger District

Habitat: Open, rocky serpentine outcrops, and on serpentine soils in open, upper foothill woodland, or lower mixed-conifer forest.

Elevation: 520-1160 m (1700-3800 ft)

Key Features: SINGLE CYLINDRICAL LEAF (may be withered at time of flowering). FLOWERS WHITE, EACH PETAL WITH A PINK MIDVEIN. Stamens DO NOT PROTRUDE from flowers. Petals (inner whorl) and sepals (outer whorl) SAME LENGTH. (The sepals and petals both look like petals in all onions. All wild onions have an onion odor.)

Look-alikes: *Allium sanbornii* var. *sanbornii* (Sanborn's onion) is similar, and also found on serpentine, but is more widespread. Sanborn's onion has pink flowers, with petals longer than sepals, and protruding stamens. All other onions have 2 or more leaves, or if only one then not cylindrical.

Flowering Time: June through August

Allium jepsonii

Photo: L.Hanson

Photo: B.Castro

Arabis constancei

Scientific Name: *Arabis constancei* Roll.

Common Name: Constance's rock cress

Family: Brassicaceae (mustard family)

Distribution: GLOBAL — Plumas and Sierra Counties, California
PNF — Southeast of Lake Almanor; near Crescent Mills; Williams Loop; and in a band in central PNF from Middle Camp southeast to Sawmill Ridge, on serpentine.
DISTRICTS — Feather River and Mount Hough Ranger Districts

Habitat: Rocky, open serpentine outcrops in mixed conifer.

Elevation: 1160-2010 m (3800-6600 ft)

Key Features: The BLUISH GREEN LEAVES AT THE BASE OF THE PLANT ARE IN A DENSE CLUSTER. The small, sparse STEM LEAVES LACK SMALL "EARS" (little flaps at the base of the leaf, next to the stem). FLOWERS CREAM COLORED. Straight, flattened PODS HANG DOWN, OVER 3 MM (1/8 IN) WIDE. TIP OF POD WITH LONG STYLE (looks like a bee stinger), ABOUT 2-3.5 MM (1/8 IN) LONG. Basal leaves have long stiff hairs on the leaf margins (visible with hand lens).

Look-alikes: *Arabis suffrutescens* var. *suffrutescens* (woody rock cress) can occur with Constance's rock cress on serpentine. Woody rock cress is similar to Constance's rock cress in that it has pods that are bent downward and over 3 mm wide. It differs in that it has rose to purplish flowers, green leaves, eared stem leaves (visible with a hand lens), and tiny styles 1 mm or less (0-1/16 in) long. Woody rock cress has either no hairs on the leaves, or it is sometimes covered with hairs that branch into 2 or 3 segments (visible with hand lens). All other *Arabis* in our area have pods that are erect, or curved pods, or if they hang down, they are less than 3 mm wide. No other rock cress on the PNF has such a long style.

Flowering Time: April through June

NOTE: Fruits are more useful for identification. Pods last until snows begin. The lengths of the styles and the widths of the pods can vary in both woody and Constance's rock cress. The presence or absence of "ears" on the stem leaves is a reliable trait. It is important to look at the styles with a hand lens because woody rock cress pods can narrow to a tip that looks somewhat like a long style to the naked eye.

Arabis constancei

Photo: L.Hanson

Photo: L.Hanson

Astragalus lentiformis

Scientific Name: *Astragalus lentiformis* Brewer & S. Watson

Common Name: Lens-pod milk-vetch

Family: Fabaceae (pea family)

Distribution: GLOBAL — Southeastern Plumas County, California
PNF — Grizzly Valley (Lake Davis), Squaw Valley, Dixie Valley, Frenchman Lake, Portola to Clairville Flat.
DISTRICTS — Beckwourth Ranger District

Habitat: Bare, dry volcanic soil in sage/bunchgrass and open yellow pine forest on flats and toeslopes. This milk-vetch is commonly found in valleys but is not associated with meadow species.

Elevation: 1460-1910 m (4800-6320 ft)

Key Features: Perennial legume from a woody root, stems several to many from the crown, lying flat on the ground. Leaves gray-green, divided into small leaflets. Leaflets are small, 9-12mm long (.25-.5in) and have short dense hairs. FLOWERS ARE CREAM TO YELLOW, PODS ARE UNINFLATED small, 6 mm (.25 in) long.

Look-alikes: All other milk-vetches in the area have flowers that have some purple or have purple viens and have inflated pods.

Flowering Time: May through early July

Astragalus lentiformis

Photo: L.Hanson

Photo: L.Hanson

Astragalus pulsiferae var. *pulsiferae*

Scientific Name: *Astragalus pulsiferae* Gray *var. pulsiferae*

Common Name: Pulsifer's milk-vetch

Family: Fabaceae (pea family)

Distribution: GLOBAL — Southern end of Modoc Plateau to Sierra Valley and Long Valley; Modoc, Lassen, and Plumas Counties, California and western Nevada.
PNF — Sierra Valley Rim
DISTRICTS — Beckwourth Ranger District

Habitat: Occurs on sandy or coarse granitic flats and slopes within the sagebrush scrub.

Elevation: 1300-1850 m (4300-6000 ft)

Key Features: Perennial herb with STEM USUALLY BRANCHING 2.5-7.5 cm (1-3 in) BELOW SOIL SURFACE. Stems mostly prostrate, 1-3 dm (4-12 in) long. Leaves compound; leaflets 7-13, small, spreading hairy. Flowers pea-shaped, small, white or with faint lavender veining, CALYX TEETH 2-3.6 MM (1/16-1/8 IN). Pod one-chambered, inflated, hairy, 1-2 cm (.5-.75 in) long.

Look-alikes: Pulsifer's milk-vetch is very similar to *Astragalus pulsiferae* var. *suksdorfii* (Suksdorf's milk-vetch). The root crown depth is deep for Pulsifer's milk-vetch but is shallow for Suksdorf's milk-vetch. Pulsifer's milk-vetch is found on granitic substrates whereas Suksdorf's milk-vetch is found on volcanics. The calyx teeth are longer for Pulsifer's milk-vetch than Suksdorf's milk-vetch, 2-3.6 mm instead of 1.3-2 mm.

Flowering Time: May to August

Astragalus pulsiferae var. *pulsiferae*

Photo: D.Mastalir

Photo: L.Hanson

Astragalus pulsiferae var. *suksdorfii*

Scientific Name: *Astragalus pulsiferae* Gray *var. suksdorfii* (Howell) Barneby

Common Name: Suksdorf's milk-vetch

Family: Fabaceae (pea family)

Distribution: GLOBAL — East side of southern Cascade and northern Sierra Nevada ranges and Modoc Plateau. Modoc, Lassen, Plumas and Sierra Counties in California, and in Nevada and Washington
PNF — East side, rims of Squaw Valley and Dixie Valley.
DISTRICTS — Beckwourth Ranger District

Habitat: Occurs on volcanic scalds and rarely on gravelly sagebrush flats or hillsides.

Elevation: 1460-1950 m (4800-6400 ft)

Key Features: Perennial herb, with STEMS BRANCHING AT OR NEAR THE GROUND SURFACE. Stems mostly prostrate, 1-3 dm (4-12 in) long. Leaves compound; leaflets 7-13, small, moderately hairy. Flowers pea-shaped, small, white or with faint lavender veining, CALYX TEETH 1.3-2 MM (1/32-1/16 IN). Pod one-chambered, 1-2 cm (.5-.75 in) long, inflated.

Look-alikes: Suksdorf's milk-vetch is very similar to *Astragalus pulsiferae* var. *pulsiferae* (Pulsifer's milk-vetch). The root crown is usually above ground for Suksdorf's milk-vetch but is buried deep for Pulsifer's milk-vetch. Suksdorf's milk-vetch is found on volcanic scalds and gravelly substrates whereas Pulsifer's milk-vetch is found on loose granitics (sometimes volcanics). The calyx teeth are shorter in Suksdorf's milk-vetch than Pulsifer's milk-vetch: 1.3-2 mm vs. 2-3.6 mm.

Flowering Time: May to July

Astragalus pulsiferae var. *suksdorfii*

Photo: D.Mastalir

Photo: L.Hanson

Astragalus webberi

Scientific Name: *Astragalus webberi* Brewer & S.Watson

Common Name: Webber's milk-vetch

Family: Fabaceae (pea family)

Distribution: GLOBAL — Plumas County, California
PNF — North fork of the Feather River and Indian Valley
DISTRICT — Mount Hough Ranger District

Habitat: Mixed conifer forest, usually at forest edge in openings. Most known occurrences are along highways on cut banks or just within the forest edge.

Elevation: 800-1200 m (2700-4000 ft)

Key Features: Perennial herb from a knotty root crown with spreading or erect stems. The stem and leaves are satiny with a coat of fine short hairs pressed flat against the stem and leaves, greenish to silvery with age. Leaves 2.5-15 cm (1-6 in) long, 13-25 leaflets oval to oblong in shape, opposite each other with a leaflet at the tip of the leaf stem. Flowers pale yeallow 1.2-2.5 cm (.5-1 in) long, 6-14 on a stalk, 6.5-15 cm (2.5-6 in) long. FRUIT POD INFLATED AND HAIRLESS WITH NO STALK AT THE TIP, 1-1.5 in long , not laterally flattened and pale with maroon blotches. Fruit dries stiff, beige with brownish streaks.

Look-alikes: Webber's milk-vetch is the only species in the area with a hairless inflated pod. *Astragalus bolanderi* (Bolander's milk-vetch) has a hairless pod but it is not inflated and has a stalk at the tip. *Astragalus purshii* (Pursh's woolly-pod) is another species that can be in the same area but it has woolly stems and leaves, purple and white flowers and a smaller wooly white pod.

Flowering Time: May through July

Astragalus webberi

Photo: L.Hanson

Photo: L.Hanson

Calycadenia oppositifolia

Scientific Name: *Calycadenia oppositifolia* (E. Greene) E. Greene

Common Name: Butte County calycadenia

Family: Asteraceae (sunflower family)

Distribution: GLOBAL — Butte County, California, in the Cascade and Sierra Nevada foothills.
PNF — Near Sawmill Peak, along Rocky Ridge, near Poe Powerhouse, near Hungry Hunt Peak.
DISTRICTS — Feather River Ranger District

Habitat: Found on grassy slopes, road cuts and brushy openings. Sometimes on serpentine.

Elevation: 245-860 m (800-2800 ft)

Key Features: Erect annual, with none to few branches, 20-30 cm (8-12 in) tall. OPPOSITE LEAVES, very narrow, without lobes or teeth. FLOWER HEADS WHORLED, each flower cluster at joint of leaf-pairs. 2-4 ray flowers per head, white, 3-lobed.

Look-alikes: All *Calycadenia* species have ray flowers that are 3-cleft and palmately lobed (spreading like fingers), and tack-shaped glands (tiny hairs with heads like a tack). Butte County calycadenia is distinct from the others by its opposite leaves and whorled flower heads.

Flowering Time: Late April through July
Need flowers for identification.

Calycadenia oppositifolia

Photo: L.Hanson

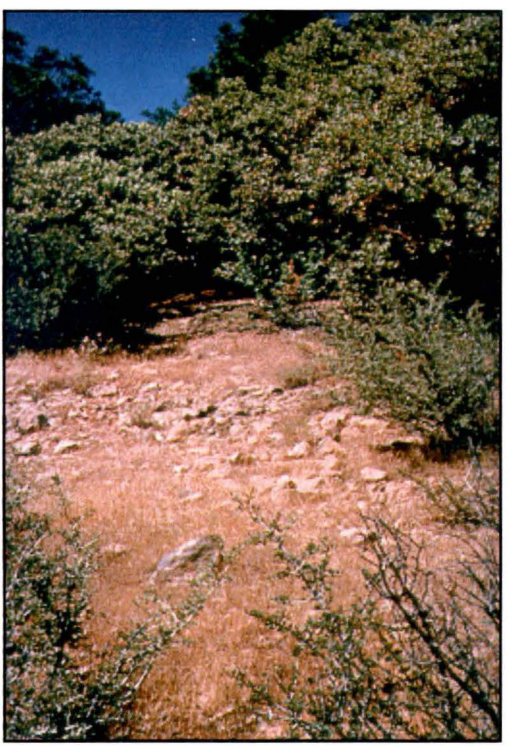


Photo: B.Castro

Calystegia atriplicifolia ssp. *buttensis*

Scientific Name: *Calystegia atriplicifolia* Hallier F. ssp. *buttensis* Brummitt

Common Name: Butte County morning-glory

Family: Convolvulaceae (morning-glory family)

Distribution: GLOBAL — Shasta, Tehama and Butte Counties of California.
PNF — Adjacent to Plumas National Forest near De Sabla Reservoir.
DISTRICTS — None

Habitat: Grows on dry, mostly open slopes in pine forests and chaparral. Often appears in disturbed areas such as skid trails, roadsides, and thinned areas.

Elevation: 600-1200 m (2000-4000 ft)

Key Features: This is a low growing perennial herb with trailing stems. The 10-50 cm (4-20 in) long stems have SIMPLE LEAVES SHAPED IN THE FORM OF A TRIANGLE WITH EQUAL SIDES AND NO LOBES. The sides of the leaves are about 4 cm (1.75 in) long. Each petiole can be 4-8 cm (2-4 in) in length. The white to pinkish flower petals are 30-45 mm (.5-1 in) in length.

Look-alikes: *Calystegia malacophylla* spp. *malacophylla* (sierra morning-glory) has triangular leaves but there is an indentation in the leaf where it attaches to the petiole (leaf stalk). The lobes on either side of this indentation are notched or tipped. Sierra morning-glory has short dense matted hairs that the Butte County morning-glory lacks. *Calystegia occidentalis* ssp. *occidentalis* (western morning-glory) is generally a much larger plant that can often appear vine-like because of its climbing habit. Western morning-glory also has obvious lobes on each side of the petiole. *Convolvulus arvensis* (field bindweed) is another similar looking plant that contrasts with the Butte County morning-glory by having small flowers and slightly different leaf shape. The flower petals of field bindweed are usually less than 2 cm long (.75 in), whereas the Butte County morning-glory flower petals are greater than 2.5 cm (1 in) in length. In addition, leaves of field bindweed are arrow shaped instead of triangle shaped.

Flowering Time: May through July

Calystegia atriplicifolia ssp. *buttensis*

Photo: L.Hanson

Photo: L.Hanson

Clarkia biloba ssp. *brandegeae*

Scientific Name: *Clarkia biloba* (Durand) A. Nelson & J.F. Macbr. ssp. *brandegeae* (Jepson) F.H. Lewis & M.R. Lewis

Common Name: Brandegee's clarkia

Family: Onagraceae (evening-primrose family)

Distribution: GLOBAL — Northern Sierra Nevada foothills from Butte County south to El Dorado County, California.
PNF — Along Ponderosa Way and near Ponderosa Dam (Lake Oroville).
DISTRICTS — Feather River Ranger District

Habitat: Found on road cuts and on open slopes in foothill woodland, chaparral and lower mixed conifer forest.

Elevation: 310-520 m (1000-1700 ft)

Key Features: 4 lavendar petals, WITHOUT A CLAW (a narrow, stalk-like base), TIP OF PETALS DIVIDED INTO 2 LOBES BY A SHALLOW CLEFT.

Look-alikes: There are 2 types of clarkias. One has simple (no teeth, lobes, clefts, etc.), wide petals forming a bowl-shaped flower. These are sometimes called godetias (wine-cup) clarkias. Brandegee's clarkia is a godetia type, but it differs from other godetia-types in that it has shallowly lobed (notched at the tips) petals. *Clarkia purpurea* (purple clarkia) has simple lavendar petals, and can be told from Brandegee's clarkia by its lack of lobes. *Clarkia gracilis* ssp. *albicaulis* (white-stemmed clarkia) has large, simple petals, forming white to pink flowers. The other type of clarkia has petals with a claw, and the petals form cross-shaped or x-shaped flowers. Consult an expert to verify identification.

Flowering Time: Late May through July

Clarkia biloba ssp. *brandegeae*

Photo: L.Janeway

Photo: L.Janeway

Clarkia gracilis ssp. *albicaulis*

Scientific Name: *Clarkia gracilis* (Piper) Nels. & Macbr. ssp. *albicaulis* (Jepson) Lewis & Lewis

Common Name: White-stemmed clarkia

Family: Onagraceae (evening-primrose family)

Distribution: GLOBAL — foothills of northern Sierra Nevada in Butte County, California.
PNF — Near Pulga, Poe Powerhouse and Bean Creek
DISTRICTS — Feather River Ranger District

Habitat: Found on road cuts and on open slopes in foothill woodland, chaparral and lower mixed conifer forest.

Elevation: 245-610 m (800-2000 ft)

Key Features: LARGE, BOWL-SHAPED FLOWER; petals 3-4 cm long (mostly over 1 in). Petals are pinkish lavendar to light purple at the tip, WHITE NEAR MIDDLE, and with a RED SPOT AT BASE (spot rarely missing).

Look-alikes: *Clarkia gracilis* ssp. *gracilis* (slender clarkia) is similar but has smaller flowers, 6-22 mm long (under 1 in), and no spot at the base of the petals. *Clarkia arcuata* (Kellogg's clarkia) has similar flowers, the petals are pinkish-lavendar at the tips and lighter below, often with a dark reddish spot at the base. The main difference between these two is that white-stemmed clarkia has three-toned petals, with a white band in the middle of the petals. White-stemmed clarkia is also a taller plant, 8-24 in, larger flowers; thicker stems; and larger buds, 4-8 mm wide when pressed. White-stemmed clarkia, as the name implies, has pale stems with a smooth, dull gleam. Kellogg's clarkia is a shorter plant, 4-14 in, often under 12 inches. It's petals are 1-3 cm long. The buds are 5 mm or less when pressed. The stems are thin and tan or brownish. Kellogg's clarkia often has dark or purple, fused sepals, while those of white-stemmed clarkia are green. *Clarkia purpurea* (purple clarkia) is also in the same group of clarkias as the others discussed here, but has erect buds. White-stemmed clarkia, slender clarkia and Kellogg's clarkia all have buds that hang down. Consult an expert to verify identification.

Flowering Time: May through July

Clarkia gracilis ssp. *albicaulis*

Photo: L.Hanson

Photo: L.Hanson

Clarkia mosquinii

Scientific Name: *Clarkia mosquinii* E. Small

Common Name: Mosquin's clarkia

Family: Onagraceae (evening-primrose family)

Distribution: GLOBAL — N. Sierra Nevada, in Butte and Plumas Counties, CA.
PNF — Roughly in a band from the vicinity of Jarbo Gap, southeast to Watson Ridge and Feather Falls, with low elevation outliers at Jamison Ranch and Ponderosa Dam, and high elevation outliers at Merrimac and Mt. Spring House.
DISTRICTS — Feather River Ranger District

Habitat: Found in natural openings and road cut banks from foothill woodlands into mixed conifer forest. The plants prefer a thin duff layer and little competing vegetation, and do well in southerly exposures and full sun. Often found on decomposing granite.

Elevation: 300-1325m (980-4350 ft). Most occur 606-1150m (2000-3800 ft).

Key Features: Annual plant, under 1 m (3 ft) tall. Flowers lavendar-purple; 4 petals with a narrow, stalk-like base (CLAW). The claw has a PAIR OF SMALL LOBES, or teeth, near the base. The petals often, but not always, have reddish-purple spots. The plants have a long inflorescence (flowering stalk at top of plant). The inflorescence is bent over at the top, with the uppermost buds hanging down. Between the uppermost open flower and the bent-over top, there are 5 OR MORE BUDS, when the plant is in early to mid-bloom.

Look-alikes: *Clarkia rhomboidea* (diamond clarkia), *C. mildrediae* (Mildred's clarkia), *C. stellata* (starry clarkia) and *C. unguiculata* (elegant clarkia) are similar to Mosquin's clarkia, and may be found in the same vicinity. Elegant clarkia has very long, narrow claws, without the 2 teeth that all the others in this group have, and only grows at low elevations (below 1,200 ft). Diamond clarkia blooms 2-4 weeks before Mosquin's clarkia. The straight part of the inflorescence, between the highest open flower and the bent top, has 3, or fewer, buds. Mildred's clarkia is very similar to Mosquin's, but has larger flower buds. They are long, over 20 mm (.75 in) and tapered, while Mosquin flower buds have a more blunt shape and are under 19 mm (under .75 in). Mildred's clarkia also has larger fruit capsules (shaped like a banana when green), over 3.5 mm wide (1/8 in), while Mosquin's are under 3 mm. Mildred's clarkia can range higher in elevation than Mosquin's (up to 5000 ft). Starry clarkia has smaller flowers; petals under 9 mm (3/8 in), while Mosquin's flowers are over 10 mm. Starry clarkia has only one flower open at a time. Consult an expert to verify identification.

Flowering Time: late June through August

Clarkia mosquinii

Photo: L.Janeway

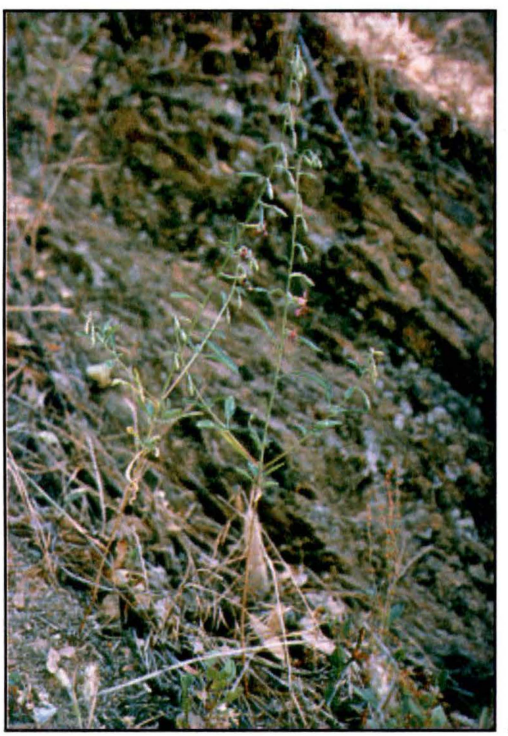


Photo: L.Janeway

Clarkia stellata

Scientific Name: *Clarkia stellata* Mosq.

Common Name: Starry clarkia

Family: Onagraceae (evening-primrose family)

Distribution: GLOBAL — Tehama, Plumas and Yuba Counties, California.
PNF — Locations near Lower Bucks Lake, Meadow Valley, American House , and Woodleaf.
DISTRICTS — Mount Hough and Feather River Ranger Districts

Habitat: Open slopes and forest/shrub edges in mid-elevation mixed conifer forest.

Elevation: 975-1560 m (3200-5100 ft)

Key Features: Annual, under 1 m (3 ft) tall. Flowers lavendar-purple; 4 petals with a narrow, stalk-like base (claw). The claw has a pair of small lobes, or teeth, near the base. The petals are NOT SPOTTED or speckled. THE FLOWERS ARE SMALL; PETALS UNDER 9MM (3/8 IN). The inflorescence is bent at the top, when the plant is in bud, but the stem straightens up as the flowers open. Only one flower is open at a time, and there are fewer than 3 buds above the open flower. The pollen is yellow.

Look-alikes: *Clarkia rhomboidea* (diamond clarkia), *C. mildrediae* (Mildred's clarkia), and *C. mosquinii* (Mosquin's clarkia) are similar and may be found in the same vicinity. These species have bigger flowers (over 10 mm long) than starry clarkia. Also, these species have speckled petals which starry clarkia lacks. Consult an expert to verify identification.

Flowering Time: June through July

Clarkia stellata

Photo: L.Hanson

Cypripedium fasciculatum

Scientific Name: *Cypripedium fasciculatum* S. Watson

Common Name: Clustered lady's-slipper

Family: Orchidaceae (orchid family)

Distribution: GLOBAL — From central California, in the Sierra Nevada and Coast Ranges, north to British Columbia. Also in the northern Rockies of Idaho, Montana, Colorado and Wyoming. Although the distribution seems large, occurrences of clustered lady's-slipper are few, often small, and widely scattered.
PNF — Occurrences are found near Almanor, Canyondam, Caribou, Twain, Storrie, Bucks Lake, Meadow Valley, Soapstone Hill, Haskins Valley, Dogwood Peak, Brush Creek, Cascade, American House, Clipper Mills and Strawberry Valley.
DISTRICTS — Mount Hough and Feather River Ranger Districts

Habitat: On moist, partially shaded slopes under mountain dogwood (*Cornus nuttallii*). Ground cover is usually sparse, with little competing vegetation, and duff accumulation is low.

Elevation: 610-1830 m (2000-6000 ft)

Key Features: A CLUSTER OF DARK BROWN OR GREENISH BROWN FLOWERS. Each flower has an inflated pouch that forms the "slipper". Perennial herb to 1 foot tall. Stems covered with long, soft hairs. Plant has only 2 LEAVES; OPPOSITE, attached at mid-stem, broadly oval, with parallel veins.

Look-alikes: Only clustered lady's-slipper has 2 opposite leaves and brown flowers. *C. montanum* (mountain lady's-slipper) and *C. californium* (California lady's-slipper) have white slippers and yellow or brown petals.

Flowering Time: April through July
Need flowers for identification.
Dried flowers remain on developing fruit.

Cypripedium fasciculatum

Photo: J.Hustafa

Photo: J.Hustafa

Cypripedium montanum

Scientific Name: *Cypripedium montanum* Lindley

Common Name: Mountain lady's-slipper

Family: Orchidaceae (orchid family)

Distribution: GLOBAL — From central California, in the Sierra Nevada, Coast Ranges and Modoc Plateau, north in the Cascades to Alaska. In the Rockies of Idaho, Montana and Wyoming.
PNF — Taylorsville, Genesee Valley, Spanish Ranch, Meadow Valley, and Quincy areas.
DISTRICTS — Mount Hough Ranger District

Habitat: Moist, open ponderosa pine forest. North to east facing slopes; shady with deep duff.

Elevation: 1070-1740 m (3500-5700 ft)

Key Features: Perennial herb, up to 1 m (3 ft) tall, with leafy (more than 2 leaves) stems, plant covered with short hairs. Leaves ALTERNATE, oval, with parallel veins. Flowers with inflated pouch (the "slipper"). SLIPPER WHITE, SEPALS AND PETALS BROWNISH PURPLE, LONG AND TWISTING.

Look-alikes: Two other lady's-slippers are found on the PNF. *Cypripedium fasciculatum* (Clustered lady's-slipper) has only 2, opposite leaves, and brown flowers. *C. californicum* (California lady's-slipper) also has white slippers, but has short, rounded, yellow petals.

Flowering Time: May through August
Need flowers for identification.
Flowers often wilt and dry on developing fruit.

Cypripedium montanum

Photo: L.Hanson

Photo: L.Hanson

Fritillaria eastwoodiae

Scientific Name: *Fritillaria eastwoodiae* MacFarlane

Common Name: Butte County fritillary

Family: Liliaceae (lily family)

Distribution: GLOBAL — In the southern Cascade Range and the northern Sierra Nevada, in Shasta, Tehama, Butte, Yuba, Nevada and Placer Counties, California.
PNF — In a band about 9 miles wide along the western edge of the Forest.
DISTRICTS — Feather River Ranger District

Habitat: Open-canopied forest, often in the forest-chaparral transition zone. Semi-shade in chaparral and foothill woodland. It has not been found under dense tanoak or under a closed forest canopy. It has been found on a variety of soils from volcanics to granitics to serpentines.

Elevation: 110-1310 m (360-4320 ft), in Butte County. Most plants on this Forest are 545-1000 m (1800-3300 ft)

Key Features: Perennial from a bulb, with either a single, oval leaf pointed at tip, 15 cm (2-6 in) long, above ground, or a flowering stem 15-45 cm (6-18 in) tall. Leaves in whorls of 3-5, narrow or sword-shaped, approximately 7-11 cm (3-4 in) long, sometimes with a whitish covering. FLOWERS nodding, open, bell-shaped, VARYING IN COLOR FROM GREENISH-YELLOW-ORANGE TO REDDISH-YELLOW TO GREENISH-PURPLE, WITH VARIABLE MOTTLING. 3 petals and 3 sepals are identical (TEPALS), 10-15 MM (1/3-2/3 in) long, STRAIGHT OR PARTIALLY CURVED BACK AT THE TIP. On the inside of each tepal is a yellowish gland (nectary). THE NECTARIES ARE TEARDROP SHAPED, AND VARY FROM DISTINCT TO INDISTINCT, AND FROM 1/3 THE LENGTH OF THE TEPAL, TO GREATER THAN 1/2 THE LENGTH. THE STYLE IS DIVIDED FROM .25-.5 THE LENGTH OF THE STYLE.

Look-alikes: *Fritillaria recurva* (scarlet fritillary) and *Fritillaria micrantha* (brownbells) are closely related and similar in appearance. Scarlet fritillary is the easiest to tell apart, with its larger, redder flowers (sometimes with yellow mottling), and tepals curled back at the tips. Brownbells flowers tend to be uniformly greenish with maroon mottling, and have uniformly and deeply divided styles and large tepal glands. All of the plants in one occurrence will be consistent in these traits, while the plants in any given Butte County fritillary occurrence may vary considerably in color, presence and length of tepal glands, how deeply divided the style is, and whether the tepals curl slightly at the tips, or not.

Flowering Time: March through June

Fritillaria eastwoodiae

Photo: L.Hanson

Photo: L.Hanson

Ivesia aperta var. *aperta*

Scientific Name: *Ivesia aperta* (J.T. Howell) Munz *var. aperta*

Common Name: Sierra Valley ivesia

Family: Rosaceae (rose family)

Distribution: GLOBAL — Eastern Plumas and Sierra Counties, California; Storey and Washoe Counties, Nevada.
PNF — Ferris Fields to Frenchman lake, and the Ramelli Ranch area in Sierra Valley.
DISTRICTS — Beckwourth Ranger District

Habitat: Flat to nearly flat vernally saturated meadows and alkali flats. This Ivesia can also be found around seeps on gentle slopes near meadows. The soils are usually volcanic or mixed alluvium Eocene lake deposits.

Elevation: 1350-2100 m (4320-6800 ft)

Key Features: Leafy gray-green plants, 30-60 cm (1-2 ft) tall with slender stems. The leaves are usually shorter than 20 cm (8 in) and have 20 TO 35 PAIRS OF LEAFLETS WITH SMOOTH EDGES. SMALL YELLOW FLOWERS 5-15 mm (.25 to .75 in) wide with 20 stamens. PETALS SHORTER THAN THE SEPALS.

Look-alikes: Perennial herb that at first glance may look like the widespread plant, *Achillea millefolium* (yarrow) of the sunflower family. Sierra Valley ivesia can also look very similar to *Ivesia sericoleuca* (Plumas ivesia), their leaves are hairy, gray-green and divided into small crowded to overlapping leaflets. The leaflets of these ivesias are smooth and not divided while yarrow has sharply dissected leaves. Plumas ivesia has white flowers with the petals longer than the sepals.

Flowering Time: June through July

Ivesia aperta var. *aperta*

Photo: L.Hanson

Photo: L.Hanson

Ivesia sericolueca

Scientific Name: *Ivesia sericoleuca* (Rydb.) Rydb.

Common Name: Plumas ivesia

Family: Rosaceae (rose family)

Distribution: GLOBAL — Plumas, Sierra, Nevada, and Placer Counties, California.
PNF — Known from Grizzly Valley, Squaw Valley, Ferris Fields and Sierra Valley at Ramelli Ranch.
DISTRICTS — Beckwourth Ranger District

Habitat: Flat to nearly flat vernally saturated meadows, swales (vernal pools) and alkali flats. This Ivesia can also be found around seeps on gentle slopes adjacent to meadows. Soils are volcanic or mixed alluvium Eocene lake deposits.

Elevation: 1350-2100 m (4320-6800 ft)

Key Features: Leafy gray-green plants, 30-60 cm (1-2 ft) tall with slender stems. The leaves are usually shorter than 20 cm (8 in) and have 20-35 PAIRS OF LEAFLETS THAT HAVE SMOOTH EDGES. SMALL WHITE FLOWERS 1-1.5 cm (.5-.75 in), deep saucer shape with 20 stamens with PETALS THAT STICK OUT PAST THE SEPALS.

Look-alikes: Gray-green perennial herb that at first glance may look like the widespread plant, *Achillea millefolium* (yarrow) of the sunflower family. The leaves of *I. sericoleuca* (Plumas ivesia) are hairy, gray-green and divided into small crowded to overlapping leaflets. Yarrow has sharply dissected leaflets and Plumas ivesia leaflets are smooth-edged.Plumas ivesia looks nearly identical to the yellow-flowered *Ivesia aperta* var. *aperta* (Sierra Valley ivesia), except its flowers are white and the petals stick out past the sepals.

Flowering Time: June through July

Ivesia sericolueca

Photo: L.Hanson

Photo: L.Hanson

Ivesia webberi

Scientific Name: *Ivesia webberi* Gray

Common Name: Webber's ivesia

Family: Rosaceae (rose family)

Distribution: GLOBAL — Northern Sierra Nevada; Plumas, Sierra and Lassen Counties in California and in western Nevada
PNF — No known locations. Known historically from American and Indian Valley. Relocated in Sierra Valley.
DISTRICTS—Potentially Mount Hough and Beckwourth Ranger Districts.

Habitat: Open areas of sandy volcanic ash to gravelly soils in sagebrush and east side pine. Also, found with sagebrush on small mounds in meadows.

Elevation: 1000-1900 m (3400-6200 ft)

Key Features: Low growing perennial herb with several stems 5-15 cm (2-6 in) long. STEMS REDDISH, originating from a matted crown. BASAL LEAVES FERNLIKE, 2.5-4 cm (1-1.5 in) long, the leaf stalks with fine silk hairs; leaflets 4-8 pairs, toothed. FLOWERS small, 5-15 IN A SPHERICAL SHAPED CLUSTER. FIVE YELLOW PETALS, 1 cm (.25 in) long, shorter than the sepals, STAMENS 5.

Look-alikes: *Ivesia aperta* var. *aperta* (Sierra Valley ivesia) has yellow flowers but instead of 5 stamens it has 15-20 stamens and 30 pairs of leaflets. *Ivesia baileyi* var. *baileyi* (Bailey's ivesia) also has yellow flowers but the flowers are individual on the flower stalk and not in a spherical cluster. The leaves in Bailey's ivesia are toothed into broadly oval segments instead of being fern-like.

Flowering Time: May through July

Ivesia webberi

Photo: J.Shevock

Photo: J.Shevock

Lewisia cantelovii

Scientific Name: *Lewisia catelovii* J Howell

Common Name: Cantelow's lewisia

Family: Portulacaceae (purslane family)

Distribution: GLOBAL — Butte, Nevada, Plumas, Shasta, and Sierra Counties, California.
PNF — Occurs mostly within the watershed of the North Fork of the Feather River, with a few populations growing within the Middle Fork watershed.
DISTRICTS — Feather River and Mount Hough Ranger Districts

Habitat: Seasonally wet, north-facing igneous, metamorphic, serpentine or sedimentary vertical or near-vertical rock cliffs within the Ponderosa Pine forest or lower mixed coniferous forest.

Elevation: 450-1300 m (1400-4000 ft)

Key Features: Perennial with FLESHY LEAVES FORMING A BASAL ROSETTE. Leaves are 2-5 cm long (.75-1.75 in). LEAF EDGES ARE NAROWLY TOOTHED WITH A SPOON-SHAPED TIP. One to several FLOWER ING STALKS ARE TALL, ranging from 7-45 cm (3-15 in) high. Flower is about the size of a dime, with LIGHT PINK PETALS with 5-7 DEEP PINK VEINS. Sepals are gland-toothed.

Look-alikes: Five *Lewisia* species occur on the PNF. Two of these, *L. kelloggii* ssp. *hutchisonii* (Kellogg's lewisia) and *L. rediviva* (bitterroot), are found in dry habitats. Two others, *L. nevadensis* (Nevada lewisa) and *L. triphylla* (three-leaved lewisia), are found in moist to wet habitats, but neither is found on wet cliffs, like Cantelow's lewisia, and neither has toothed leaves or long flowering stalks like Cantelow's lewisia. There is, however, a closely related species called *L. serrata* (saw-toothed lewisia), that looks very like Cantelow's lewisia with similar toothed leaves and tall flowering stalks. It is found further south in the Sierra Nevada than Cantelow's lewisia, in Eldorado and Placer Counties. Saw-toothed lewisia leaves have a pointed tip, instead of the spoon-shaped tip of Cantelow's lewisia, and the teeth on the margins of saw-toothed lewisia leaves are wider than those of Cantelow's lewisia.

Flowering Time: May through June

Lewisia cantelovii

Photo: L.Hanson

Photo: L.Hanson

Lupinus dalesiae

Scientific Name: *Lupinus dalesiae* Eastw.

Common Name: Quincy lupine

Family: Fabaceae (pea family)

Distribution: GLOBAL — Northern High Sierra Nevada in Butte, Plumas, Sierra, and Yuba Counties, California
PNF — Lake Almanor to Sloat, centered around Quincy.
DISTRICTS — Beckwourth, Mount Hough and Feather River Ranger Districts

Habitat: Dry slopes in mixed conifer and red fir forest. Often on light-colored shale soils. Sometimes on previously disturbed sites such as cutbanks, skid roads and mine sites.

Elevation: 1000-2500 m (3000-7500 ft)

Key Features: Perennial, to 30 cm (1 ft) tall, upright, sprawly, gray-green. LEAVES AND STEMS HAIRY. The white HAIRS, both long and short, stick out PERPENDICULAR TO THE STEM. Compound leaves of up to 9 leaflets, attached at base and fanning out like fingers. Leaflets narrow, velvety to the touch. The petiole is shorter than the longest leaflet. Pea-like FLOWERS PALE YELLOW, less than 1 cm (.25 in) long.

Look-alikes: *Lupinus apertus* (open lupine) sometimes occurs with Quincy lupine, and has been confused with it. It is variably hairy, but doesn't have the perpendicular hairs of Quincy lupine. Its hairs are pressed against the stem. The plants sprawl horizontally more than Quincy lupine. Its flowers are white to purple. *L. angustiflorus* (yellow-flowered lupine) has also been mistaken for Quincy lupine since its flowers are yellow, but the plants are green, not gray-green, and its hairs are short and not perpendicular like Quincy lupine.

Flowering Time: May through July

Lupinus dalesiae

Photo: L.Hanson

Photo: L.Hanson

Monardella follettii

Scientific Name: *Monardella follettii* (Jepson) Jokerst
Common Name: Follett's wild mint
Family: Lamiaceae (mint family)

Distribution: GLOBAL — Northern Sierra Nevada, in Plumas County, California.
PNF — On slopes and ridgetops, between Yellow Cr. and on Red Hill, on the ridge between the East Branch of the NFFR and Spanish Creek, and near Meadow Valley.
DISTRICTS — Mount Hough Ranger District

Habitat: Open, rocky serpentine slopes and, more often, on serpentine slopes in mixed conifer forest.

Elevation: 760-1920 m (2500-6300 ft)

Key Features: Monardella flowers are in clusters, usually at the tops of the stems. Single flowers are small, irregularly shaped, each with a small calyx of fused sepals surrounding it. The flower heads have bracts surrounding them as well. The bracts and calyx are often used to separate species of *Monardella*. Follett's wild mint is a perennial, 2-4 ft. tall. The leaves are narrow and shorter than the length of the stem in between them. The lower stems and leaves, are WITHOUT HAIRS. Leaves, stems and bracts often a REDDISH-PURPLE COLOR. Tiny pits (sunken glands) on underside of the leaves are visible with a hand lens. The flowers are PINK TO PURPLE, and slightly hairy. Calyx densely covered by short, gland tipped hairs that appear to be ARRANGED IN ROWS. This is visible in sunlight with a hand lens.

Look-alikes: Two species of *Monardella* may be found in the same area as Follett's wild mint on serpentine; *M. sheltonii* (Shelton's wild mint) and *M. stebbinsii* (Stebbins' wild mint). Shelton's wild mint is a common species found on rock outcrops, including serpentine; similar to Follett's wild mint. Differences: Shelton's mint lacks the red & purple leaf color; the bracts curl outward; leaves and stems are hairy (short, straight hairs); and the leaves are sometimes toothed. Similarities: both have sunken gland pits on the undersides of the leaves; both have leaves that are shorter than the length of stem between them (intern odes); and both have pink to purple flowers. Hybrids found where both species grow together. Stebbins' wild mint is separated from Follett's by its hairiness. The entire plant is covered with woolly (matted, intertwined) hairs. The leaves have the same reddish-purple color as Follett's but the hair casts a whitish color over the red, creating an ash-colored, or lead-colored effect. Stebbins' wild mint is shorter than Follett's and the leaves are longer than the internodes. There are no sunken glands on the leaves. Stebbin's wild mint is more rare than Follett's, and is only found on steep serpentine slopes or cliffs, and on the scree that forms below. Consult an expert to verify identification.

Flowering Time: July

Monardella follettii

Photo: L.Janeway

Photo: L.Janeway

Monardella stebbinsii

Scientific name: *Monardella stebbinsii* Hardham & J. Bartel

Common Name: Stebbins' wild mint

Family: Lamiaceae (mint family)

Distribution: GLOBAL — In the watershed of the North Fork Feather River, in Plumas County, California.
PNF — Along Caribou Road (North Fork Feather River), and Highway 70 (East Branch of the North Fork of the Feather River), and Red Hill.
DISTRICTS — Mount Hough Ranger District

Habitat: Serpentine cliffs, steep slopes, and scree.

Elevation: Most occurrences between 760-1060 m (2500-3500 ft)
The ridgetop occurrence is at 1425 m (4700 ft)

Key Features: Monardella flowers are in clusters, usually at the tops of the stems. Single flowers are small, irregularly shaped, each with a small calyx of fused sepals surrounding it. The flower heads have bracts surrounding them as well. The bracts and calyx are often used to separate species of *Monardella*. Stebbins' wild mint is a perennial, restricted to serpentine cliffs and scree, a very harsh habitat with few associated plant species. The plants grow in mats or clumps, from woody underground bases. LEAVES AND STEMS ARE COVERED WITH DENSE, SHORT HAIRS, with a felt-like texture. The hairs give the plant a gray-green color, and, when the leaves are tinted reddish-purple, a lead color. Under a hand lens, the leaves and stems have a woolly appearance, (inter-twined, matted) hairs. The flowers are pink to purple in a flower head.

Look-alikes: *Monardella follettii* (Follett's wild mint) and *M. sheltonii* (Shelton's wild mint) both occur on serpentine and may be found in the same area as Stebbins' wild mint. Stebbins' wild mint is shorter than the other two and the only one found on serpentine scree. It's woolly hairiness also sets it apart from the other two. Follett's mint has no hairs on the leaves or lower stems, and Shelton's mint has short, straight (not woolly) hairs. Stebbins' wild mint also has oval leaves (not narrow), which are longer than the internodes (length of stem between leaves). All three species have pink to purple flowers, while *M. odoratissima* ssp. *pallida* (pale mountain mint), a common forest *Monardella* species, has white to pale lavender flowers. Pale mountain mint is rarely found on serpentine. Consult an expert to verify identification.

Flowering Time: End of June to beginning of August

Monardella stebbinsii

Photo: L.Hanson

Photo: L.Hanson

Oreostemma elatum

Scientific Name: *Oreostemma elatum* (E. Greene) E. Greene

Common Name: Plumas alpine-aster

Family: Asteraceae (sunflower family)

Distribution: GLOBAL — Plumas County, California
PNF — Known from Butterfly Valley, Snake Lake and Hauns Meadow areas.
DISTRICT —Mount Hough Ranger District

Habitat: Perennial wet meadows.

Elevation: 1100-1700 m (3800-5600 ft)

Key Features: SINGLE SUNFLOWER HEAD ON EACH STEM with leaves mostly at the base developing from a taproot. Sunflower head with ray and disk flowers with bristles at the top of the ovary of each flower. The ray flowers are purple. The bracts around the sunflower head in 3-4 rows. STEMS AND LEAVES LACK HAIRS AND THE BRACTS AROUND THE SUNFLOWER HEAD LACK HAIRS AND OR HAVE HAIRS ALONG THE MARGINS. THE BRACTS AROUND THE SUNFLOWER HEAD USUALLY HAVE 3 VEINS.

Look-alikes: *Oreostemma alpigenum* var. *andersonii* (Alpine aster) has hairy stems, leaves and bracts that are around the sunflower head. Plumas alpine aster lacks hairs on the stems and leaves and the bracts around the sunflower head. The bracts around the sunflower head in Alpine aster have 1 vein instead of the 3 veins of the Plumas alpine aster. Consult an expert for identification.

Flowering Time: July through August

Oreostemma elatum

Photo: L.Hanson

Photo: L.Hanson

Penstemon personatus

Scientific Name: *Penstemon personatus* Keck

Common Name: Closed-lip penstemon, Close-throated beardtongue

Family: Scrophulariaceae (figwort family)

Distribution: GLOBAL — Northern Sierra Nevada in Butte, Plumas, and Sierra Counties, California
PNF — Round Valley, Argentine Lookout, Bucks Lake, and Hartman Bar Ridge
DISTRICTS — Feather River and Mount Hough Ranger Districts

Habitat: Mixed conifer and red fir forest. Shade, semi-shade or direct sun.

Elevation: 1500-1800 m (4000-6200 ft)

Key Features: Perennial herb. In shade, plants remain short, under 15 cm (6 in); in sun, mature plants have 1 to several flowering stems from 30-50 cm (12-20 in) tall. Each flowering stem has paired leaves pointed at tip with 6-20 or more flowers. Flowers blue-purple to reddish-purple, tubular to about 3 cm (1.5 in) long, WITH A CLOSED MOUTH SO THE INSIDE OF THE FLOWER CANNOT BE SEEN. Densely hairy inside the mouth of the flower. The pairs of opposite leaves are at right angles to each other. Plants in the sun often have reddish-purple veins.

Look-alikes: None. Many of the penstemons look alike, but none have the distinctly closed mouth.

Flowering Time: July through September
Need flowers for identification.

Penstemon personatus

Photo: D.Carrier

Photo: L.Hanson

Pyrrocoma lucida

Scientific Name: *Pyrrocoma lucida* (Keck) Kartesz & K. Gandhi

Common Name: Sticky pyrrocoma

Family: Asteraceae (sunflower family)

Distribution: GLOBAL — Plumas, Sierra, and Yuba Counties, California
PNF — Known from Ferris Field to Dooley Creek, Frenchman Lake, Crocker Meadow, Mapes Canyon, Ramelli Ranch and the Mohawk Area on the Middle Fork of the Feather River.
DISTRICTS — Beckwourth Ranger District

Habitat: Meadows and alkali flats. Most often found on volcanic or mixed alluvium soils. In Plumas and Sierra Counties, sticky pyrrocoma is found associated with *Ivesia aperta* var. *aperta* (Sierra Valley ivesia) in the same habitat.

Elevation: 580-1950 m (1890-6400 ft)

Key Features: Perennial herb 30-60 cm (1-2 ft) tall with BRIGHT GREEN LEAVES THAT ARE STICKY, SHINY AHD HAIRLESS. The leaves are deep green, 6-25 cm (2.5-10 in) long. Each plant with 12-30 small yellow sunflower heads.

Look-alikes: Other pyrrocomas found in the vicinity of sticky pyrrocoma will have similar leaf size and shape, but they are not sticky or as shiny.

Flowering Time: July through August

Pyrrocoma lucida

Photo: L.Hanson

Photo: L.Hanson

Rupertia hallii

Scientific Name: *Rupertia hallii* (Rydb.) Grimes

Common Name: Hall's rupertia

Family: Fabaceae (legume family)

Distribution: GLOBAL — Butte and Tehama Counties, California. Its known range is 15 miles north to south and 10 miles east to west. The northernmost site is south of Mill Creek, southernmost on Cohasset Ridge, eastern on Carpenter Ridge and western on Campbell Ridge.
PNF — No known locations in Plumas National Forest. Closest location near Butte Meadows.
DISTRICTS — None

Habitat: Openings in mixed coniferous forest, ponderosa pine forests, or brushy black oak areas.

Elevation: Less than 2250 m (7400 ft)

Key Features: Herbaceous perennial less than 1 m (3 ft) in height. THREE LEAFLETS, each leaflet BRIGHT GREEN 4-9 cm (1.5-3.5 in) DOTTED WITH MANY GLANDS, BUT NO HAIRS. Glands visible with a hand lens. Whitish to yellowish pea-like flowers are in compact clusters.

Look-alikes: Two other *Rupertia* species are found in California, but their ranges do not overlap with Hall's rupertia. There is some doubt that Hall's rupertia is really a different species from *R. physodes* (forest scruf-pea). More study is needed.

Flowering Time: June through August

Rupertia hallii

Photo: L.Hanson

Photo: L.Hanson

Scheuchzeria palustris var. *americana*

Scientific Name: *Scheuchzeria palustris* var. *americana* (Fern.) Hulten

Common Name: American scheuchzeria

Family: Scheuchzeriaceae (scheuchzeria Family)

Distribution: GLOBAL — Two Lassen National Forest locations and one in Lassen Volcanic National Park, California. Southern High Cascade Range to Alaska, Eastern North America.
PNF — Believed extinct. Last specimen collected in 1897. Habitat inundated by Lake Almanor.
DISTRICTS—None. Potentially Mount Hough Ranger District

Habitat: Floating sphagnum bogs at lake margins.

Elevation: 1300-2700 m (4200-9000 ft)

Key Features: Grass-like plant. Upright flowering stems are 2-4 dm (8-16 in) in height. The narrow, linear leaves are longer at the base of the flowering stems, 1-2 dm, (4-8 in). Sheaths surrounding the basal leaves can be 10 cm (4 in) long. There are 3-12 SMALL GREENISH FLOWERS on each flowering stem. EACH FLOWER HAS 3 PISTILS. FRUITS ARE 5-10 MM (.25-5 IN) IN SIZE.

Look-alikes: *Scheuchzeria* is similar to *Juncus* (rush) species. It is separated from rushes by having 3 pistils, while rushes have 1 pistil. *Scheuchzeria* flowers are green while rush flowers are usually brown or purplish. However, some rush flowers are also green. *Scheuchzeria* fruits are larger (5- 10 mm) than rush fruits, which are about 1-2 mm.

Flowering Time: July

Scheuchzeria palustris var. *americana*

Photo: L.Hanson

Photo: L.Hanson

Sedum albomarginatum

Scientific Name: *Sedum albomarginatum* R.T. Clausen

Common Name: Feather River stonecrop

Family: Crassulaceae (stonecrop family)

Distribution: GLOBAL — Butte and Plumas Counties, California
PNF — Known from two bands of serpentine along the North Fork of the Feather River.
DISTRICTS — Feather River and Mount Hough Ranger Districts

Habitat: Serpentine rocky cliffs and slopes.

Elevation: 300-900 m (1000-3000 ft)

Key Features: Succulent perennial with a dense cluster of thick, fleshy leaves in a rosette, and a leafy stem. LEAVES ARE GRAY, with WHITISH OR REDDISH MARGIN, widest above the middle and tapered to the base. White covering on leaves can be rubbed off. Flowers erect, pale yellow.

Look-alikes: Other sedums occur in this area. These are *Sedum lanceolatum* (lanceolate-leaves stonecrop), *S. obtusatum* ssp. *obtusatum* (Sierra stonecrop) and *S. spathulifolium* (Pacific stonecrop). These may or may not be on serpentine, but their leaves are green, and do not have the white or reddish margins.

Flowering Time: June

Sedum albomarginatum

Photo: L.Hanson

Photo: L.Hanson

Senecio eurycephalus var. *lewisrosei*

Scientific Name: *Senecio eurycephalus* A. Gray var. *lewisrosei* (J.T. Howell) T. Barkley

Common Name: Cut-leaved butterweed

Family: Asteraceae (sunflower family)

Distribution: GLOBAL — In Butte and Plumas Counties, California. Known from the two bands of serpentine in the north fork of the Feather River and in the French Creek basin.
PNF —Caribou Rd, Highway 70, Red Hill, Yellow Creek, Pulga, Concow, French Creek
DISTRICTS — Feather River and Mount Hough Ranger Districts

Habitat: Serpentine substrate in chaparral, foothill woodland, and lower mixed coniferous forest.

Elevation: 300-1000 m (900-3200 ft)

Key Features: Perennial with several stems arising from a branched and woody crown with a taproot. LEAVES DEEPLY DIVIDED INTO NUMEROUS FINE SEGMENTS, reducing in size up the stem. Herbage covered with felt-like short woolly hairs when young, appearing silver-gray, later becoming almost hairless. Plants are 3-6 dm (1-2 ft) tall. The several to many flower heads are composed of yellow ray (outer, petal-like) and disk (inner, small) flowers. The few ray flowers (approximately 8) are 12-25 mm (.5-1 in) long.

Look-alikes: There are other *Senecio* species in the area but this is the only one with leaves deeply divided into fine segments.

Flowering Time: April through July

Senecio eurycephalus var. *lewisrosei*

Photo: L.Hanson

Photo: L.Hanson

Silene occidentalis ssp. *longistipitata*

Scientific Name: *Silene occidentalis* S. Watson ssp. *longistipitata* C. Hitchc & Maguire

Common Name: Long-stiped catchfly

Family: Caryophyllaceae (pink family)

Distribution: GLOBAL —Known only within an 18 mile range from northern Butte County and eastern Tehama County, California. Historical locations in Shasta and Tehama not relocated.
PNF — Potential habitat, but no known occurrences.
DISTRICTS — None

Habitat: Chaparral and coniferous forest.

Elevation: 1000-2000 m (3280-6600 ft)

Key Features: All *Silene* (campion or catchfly) species have fused sepals forming a tube around the base of the flower. This tube is often sticky and/or hairy, and has 10 veins. Long-stiped catchfly is a pink to rose-red flowered perennial 30-60 cm high (1-2 ft). Flowers with 5 petals, each having 4 lobes. Leaves several times longer than wide. CALYX TUBE LONG; 27-38 mm (1-1.5 in).

Look-alikes: *Silene bernardina* (Palmer's catchfly), *S. bridgesii* (Bridge's catchfly), *S.douglasii* (Douglas' catchfly), and *S. occidentalis* ssp. *occidentalis* (western catchfly) all occur within the same range and habitat as long-stiped catchfly. All these species have long, straight calyx-tubes, and erect flowers. None, however have a tube as long as long-stiped catchfly. Western catchfly, the next closest, has calyx-tubes 15-25mm (5/8-1 in). There are other *Silene* species, but they have nodding flowers and/or short, oval-shaped calyx-tubes.

Flowering Time: July through August

Silene occidentalis ssp. *longistipitata*

Photo: L.Hanson

Photo: L.Hanson

Vaccinium coccineum

Scientific Name: *Vaccinium coccineum* Piper

Common Name: Scarlet huckleberry

Family: Ericaceae (heath family)

Distribution: GLOBAL — Sierra Nevada and Klamath Range. Siskiyou, Plumas and Sierra Counties, California.
PNF — From Bucks Creek to American House.
DISTRICTS — Mount Hough and Feather River Ranger Districts

Habitat: Moist slopes, near creeks and meadows, usually in semi-shade or afternoon shade.

Elevation: 1400-1700 m (4500-5500 ft)

Key Features: Shrub, to 1 m (3.5 ft) high. Bright green, ovate leaves with toothed margins, each tooth tipped with a hair. BERRIES look like small blueberries, only BRIGHT RED. Small, whitish to pink, urn-shaped flowers.

Look-alikes: *Vaccinium membranaceum* (thin-leaved huckleberry) is a common, widespread huckleberry, known from Washington, Oregon, California and the Rocky Mountains. It is indistinguishable from scarlet huckleberry, except that its berries are a dark, murky red to almost black. Research is in progress to determine if these are separate species or varieties, or not. The other huckleberries on PNF, *V. caespitosum* (dwarf huckleberry) and *V. uliginosum* ssp. *occidentale* (western blueberry), have blue berries.

Flowers: June

Berries ripen late August-September.

Vacciniun coccineum

Photo: L.Hanson

Photo: L.Hanson

Allium sanbornii var. *sanbornii*

Scientific Name: *Allium sanbornii* Alph. Wood var. *sanbornii*

Common Name: Sanborn's onion

Family: Liliaceae (lily family)

Distribution: GLOBAL — Sierra Nevada and Klamath Range.Tehama, Butte, Yuba, Nevada, Placer, El Dorado and Calaveras Counties, California; Jackson County, Oregon.
PNF — Near Woodleaf and Challenge.
DISTRICTS — Feather River Ranger District

Habitat: Brushy serpentine outcrops or soils in open, upper foothill woodland or lower mixed-conifer forest. Also found on basic intrusive rock and granitics.

Elevation: 350-1350 m (1000-4400 ft)

Key Features: SINGLE CYLINDRICAL LEAF (may be withered at time of flower ing). FLOWERS PINK. Stamens PROTRUDE from flowers. Petals (inner whorl) LONGER THAN sepals (outer whorl). (The sepals and petals both look like petals in all onions. All wild onions have an onion odor.)

Look-alikes: *Allium jepsonii* (Jepson's onion) is a similar species and is also found on serpentine, but is more rare. Jepson's onion flowers are white with a pink midvein in each petal. The stamens do not protrude from the flower. The petals and sepals are the same length. All other onions have 2 or more leaves, or if only one then not cylindrical.

Flowering Time: July through August

Allium sanbornii var. *sanbornii*

Photo: L.Hanson

Photo: L.Hanson

Astragalus whitneyi var. *lenophyllus*

Scientific Name: *Astragalus whitneyi* A. Gray var. *lenophyllus* (Rydb.) Barneby

Common Name: Sierra Whitney's milk-vetch

Family: Fabaceae (legume family)

Distribution: GLOBAL — Nevada, Placer, and Plumas Counties, California
PNF — Bunker Hill Ridge
DISTRICT — Feather River Ranger District

Habitat: Open, rocky places

Elevation: 2100-2800 m (7000-9300 ft)

Key Features: Low growing, silver-haired perennial with small 2-5 cm, (.5-1 in) pinnately segmented leaves. The individual leaf segments (leaflets) are tightly spaced, usually having no spaces between them. The flower stalk has 5-9 CREAM COLORED FLOWERS. FRUITS are BLADDER-LIKE, GREEN WITH RED OR PURPLE MARKINGS, and HAIR-LESS.

Look-alikes: *Astragalus purshii* var. *purshii* (Pursh's pale-flowered woolly-pod), is the only other Astragalus growing at this high elevation within the PNF. As the name suggests, this plant has hairy fruit pods, in contrast with the hairless fruit of the Sierra Whitney's milk-vetch. Also, Pursh's flowers are pink to purple, and Sierra Whitney's milk-vetch flowers are cream. To distinguish *Astragalus whitneyii* var. *confusus* (Northeastern Whitney's milk-vetch) from Sierra Whitney's milk-vetch, it's closest relative, the young fruits lack hairs in the Sierra Whitney's milk-vetch and has curved minute hairs on the fruit in the Northeastern Whitney's milk-vetch.

Flowering Time: June through August

Astragalus whitneyi var. *lenophyllus*

Photo: L.Hanson

Photo: L.Hanson

Balsamorhiza macrolepis var. *macrolepis*

Scientific Name: *Balsamorhiza macrolepis* W. Sharp var. *macrolepis*

Common Name: Big-scaled balsamroot

Family: Asteraceae (sunflower family)

Distribution: GLOBAL — Sierra Nevada Foothills, Inner Coast Range, Sacramento Valley, and San Francisco Bay Area, California.
PNF — Historic location near Brush Creek, has not been relocated.
DISTRICT — Potentially Feather River Ranger District

Habitat: Open grassy slopes, valleys, and foothill woodlands, including serpentine soils.

Elevation: Less than 1400 m (4500 ft)

Key Features: Perennial from coarse and woody rootstock. Several wand-like flowering stems, each 1-5 dm (4-18 in) in height. Each stem has one large flower head at the top with SEVERAL DEEPLY DIVIDED BASAL LEAVES 10-45 cm (4-18 in) long and 5-10 cm (2-4 in) wide. PLANT IS GREEN (not silvery), and THINLY HAIRY, the hairs short, stiff and pressed flat to the surface. Flower heads have 10-15 yellow ray flowers surrounding the cylindrical yellow disc flowers. The flower head is 5-10 cm (2-4 in) wide. The bracts surrounding the flower head are aranged in 2-4 slightly overlapping rows. OUTERMOST BRACTS are 2.5-6.5 cm (1-2.5 in) long and 5-10 MM (.5-1.0 IN) WIDE WITH A TOOTHED MARGIN AT TIP, THAT STICK UP QUITE A BIT HIGHER THAN THE DISK FLOWERS.

Look-alikes: *Balsamorhiza macrolepis* var. *platylepis* (east slope balsamroot) has outermost bracts that stick up slightly higher or are equal to the disk flowers and are not toothed at the tip. East slope balsamroot is not known from the west slope of the forest. Big-scaled balsamroot has deeply divided leaves which other large yellow sunflowers lack. *Balsamorhiza sagitatta* (arrow-leaved balsamroot) has a large arrow shaped leaf that is not deeply divided and *Wyethia mollis* (mountain mule-ears) has an oval shaped leaf that is also not deeply divided.

Flowering Time: March through June

Balsamorhiza macrolepis var. *macrolepis*

Photo: B.Castro

Photo: B.Castro

Cardamine pachystigma var. *dissectifolia*

Scientific Name: *Cardamine pachystigma* (S. Watson) Rollins var. *dissectifolia* (Detl.) Rollins

Common Name: Dissected-leaf toothwort

Family: Brassicaceae (mustard family)

Distribution: GLOBAL — Found in Magalia, near the Pulga Bridge on Hwy. 70, and at Bean Creek near Meadow Valley, Butte and Plumas Counties, California.
PNF — West side of Plumas National Forest.
DISTRICTS — Feather River and Mount Hough Ranger Districts.

Habitat: On serpentine in openings in brush and woodlands.

Elevation: 600-1700 m (2000-5500 ft)

Key Features: WHITE FLOWERS, sometimes pink. TWO TYPES OF LEAVES: rhizome (lower) leaves; and stem (upper) leaves. STEM LEAVES ARE DISTINCTIVE; they are palmately dissected, or DEEPLY DIVIDED INTO 3 NARROW, LINEAR SEGMENTS. Rhizome leaves are rounded in outline, with lobed margins. Each lobe comes to a small point. Rhizome LEAVES ARE GRAY-GREEN ON UPPER SURFACE, and sometimes purple on the underside.

Look-alikes: Several *Cardamine* species are found on the PNF. The closely related *Cardamine pachystigma* var. *pachystigma* (stout-beaked toothwort) (in photo) has rose-pink flowers, rarely white, and lacks stem leaves. It only has one kind of leaf; rounded, lobed rhizome leaves, similar to the rhizome leaves of var. *dissectifolia*. According to some authors, stout-beaked toothwort has a wide distribution in California, but Glenn Clifton, in his "Plumas County and Plumas National Forest Flora, 1998 Draft," says that the kind of stout-beaked toothwort found on the PNF is different from the widespread group of plants called by that name, and is a rare plant. This taxon is more rare than dissected-leaf toothwort. It is found on serpentine in the Feather River canyon at Rich Bar and on Red Hill. Clifton's discussion of the genus *Cardamine* contains several name changes and new unnamed species. *Cardamine* species #3 in his flora is a more common, widespread plant of open-canopied forest habitats, under 4,000 ft. It is similar to dissected-leaf toothwort, except its rhizome leaves are marbled with green and purple on the upper surfaces, and the fruits are 1-2 mm wide, while dissected-leaf toothwort leaves are gray-green on the upper surfaces and the fruits are 2-4 mm wide. Clifton's treatment is unfinished at this time. Once all this is resolved, perhaps several *Cardamine* species will need to be put on the sensitive plant list for PNF. Consult an expert for identification.

Flowering Time: March to April

Cardamine pachystigma var. *dissectifolia*

Photo: L.Janeway

Photo: L.Janeway

Clarkia mildrediae

Scientific Name: *Clarkia mildrediae* (Heller) Lewis & Lewis

Common Name: Mildred's clarkia

Family: Onagraceae (evening-primrose family)

Distribution: GLOBAL — Eastern Butte, western Plumas with outliers in Yuba and Sierra Counties, California.
PNF — In the area between Stirling City, Meadow Valley, Feather Falls and Strawberry Valley.
DISTRICTS — Feather River and Mount Hough Ranger Districts

Habitat: Semi-shaded openings on granitic soils, also on volcanics. Often on road cut banks, but also in undisturbed natural openings such as those created by fire. Needs slightly more shade than Mosquin's clarkia, a close relative.

Elevation: 450-1600 m (1500-5320 ft)

Key Features: Annual plant, under 1 m (3 ft) tall. Flowers lavender-purple, often with DARKER SPECKLES near the base of the petals. Petals have a CLAW with 2 LOBES near the base. The flowering stalk is bent over at the top, with UNDER 3 BUDS between open flowers and bent-over top. The FLOWERS ARE LARGE, petals mostly over 16 mm (5/8 in). The flower BUDS ARE LONG, over 20 mm (.75 in) and TAPERED. Mildred's clarkia also has LARGE FRUIT CAPSULES (shaped like a banana when green), over 3.5 mm wide (1/8 in) when green. There are 2 subspecies; *C. mildrediae* ssp. *mildrediae,* which has larger petals and magenta anthers and blue-gray pollen; and *C. mildrediae* ssp. *lutescens*, which has yellow, yellow-orange, light orange, or red-orange anthers and pollen. *C. mildrediae* ssp. *mildrediae* is found to the northwest of ssp. *lutescens*, roughly in the drainage of the North Fork of the Feather River.

Look-alikes: *Clarkia rhomboidea* (diamond clarkia), *C. mosquinii* (Mosquin's clarkia), *C. stellata* (starry clarkia) and *C. unguiculata* (elegant clarkia) are similar to Mildred's clarkia, and may be found in the same vicinity. Elegant clarkia has very long, narrow claws, without the 2 teeth that all the others in this group have, and only grows at low elevations (below 1200 ft). Diamond clarkia blooms 2-4 weeks before Mildred's clarkia, and its petals are under 16 mm long. Mosquin's clarkia is very similar to Mildred's, but has smaller flower buds, under 19 mm (under .75 in) long, with a more blunt shape. There are over 5 buds between the first open flower and the bent-over top. Mosquin's capsules are under 3 mm wide when green. Mildred's clarkia can range higher in elevation than Mosquin's, up to 5,000 ft. Starry clarkia has smaller flowers, petals under 9 mm (3/8 in). Only one flower opens at a time. Flowers are not, or just barely, speckled. Pollen is yellow. Consult an expert to verify identification.

Flowering Time: Late June through August

Clarkia mildrediae

Photo: L.Hanson

Photo: L.Janeway

Claytonia palustris

Scientific Name: *Claytonia palustris* Swanson & Kelley

Common Name: Marsh claytonia

Family: Portulacaceae (purslane Family)

Distribution: GLOBAL —Klamath and high Cascade mountain ranges, northern and central portions of the high Sierra Nevada, Butte, Fresno, Plumas, Siskiyou, Tehema, and Tuolomne, Counties,California.
PNF — Boyle Ravine, Peppard Flat, Owl Creek, and Butterfly Valley
DISTRICT — Mount Hough Ranger District

Habitat: Riparian species often embedded in a dense tangle of perennial vegetation. Generally in springs, seeps, or wet meadows.

Elevation: 1000-2300 m (3400-7500 ft)

Key Features: Perennial with mostly basal leaves 8-30 cm long (3-12 in) that taper to the petiole. Blade portion of leaf about .25 the length of petiole. There are usually 5-18 small white to pinkish flowers on a flowering stalk. EACH FLOWER HAS A BRACT WHERE THE PEDICEL ATTACHES TO THE STALK. Individual flowers are less than 1 cm (.5 in) in diameter.

Look-alikes: *Claytonia lanceolata* (western spring beauty) has similarly long and narrow leaf bases that taper to the petioles, but the leaf blades are much narrower. Marsh calytonia has leaf-like appendages (bracts) throughout the infloresence while the western spring beauty has a bractless inflorescence.

Flowering Time: June through August

Claytonia palustris

Photo: L.Janeway

Photo: L.Janeway

Claytonia umbellata

Scientific Name: *Claytonia umbellata* S. Watson

Common Name: Great Basin claytonia

Family: Portulacaceae (purslane family)

Distribution: GLOBAL — Alpine, Lassen, Mono, Modoc, and Siskiyou Counties in California. Also known from Nevada and Oregon.
PNF — One historic location near Milford. This occurrence has not been relocated.
DISTRICT — Potentially, Beckworth Ranger District.

Habitat: Gravel or rock crevices and talus slopes.

Elevation: 1900-3500 m (6200-11500 ft)

Key Features: Perennial arising from a swollen underground stem (tuber). THE TUBER AND MOST OF THE LEAVES OF THE PLANT ARE BURIED UNDER ROCK with only the tips of the leaves and flower stalks sticking out of the rocks. There are usually two different kinds of leaves; those growing directly out of the stem base or ground near the stem (basal leaves), and leaves attached to the main stem in pairs (opposite). Basal leaves few, stems 5-25 cm (1-10 in), 2-10 cm (1-4 in) underground. The basal leaf has a long stalk (petiole) that is 4-22 cm (1.5-8.5 in) in length. This LEAF BLADE IS THICK AND SMALL, MOSTLY 1-3 CM (.5-1 IN) LONG. The stem leaves are 3-nerved or veined and 1-3 cm (.33-1.25 in) in length. Each of the 2-12 white to pink flowers have 5 petals, and the petals are 6-12 mm (.25-.5 in) long.

Look-alikes: *Claytonia lanceolata* (western spring beauty) and *Claytonia megarhiza* (fell-fields claytonia) are the two other claytonias inhabiting talus slopes. Western spring beauty is not buried in rock and has erect stems 15 cm (6 in) tall and leaves 8 cm (3 in) long. Fell-fields claytonia has a basal rosette of leaves that are not buried.

Flowering Time: June through August

Claytonia umbellata

Photo: L.Hanson

Photo: L.Hanson

Cupressus bakeri

Scientific Name: *Cupressus bakeri* Jepson

Common Name: Baker cypress, Modoc cypress

Family: Cupressaceae (cypress family)

Distribution: GLOBAL — Northern High Sierra, California, High Cascade Range, Kalamath Ranges and Southwest Oregon. Modoc, Plumas, Shasta, Siskiyou Counties, California ans Josephine County Oregon.
PNF — Mud Lake, Wheeler Peak, and Eisenheimer Peak
DISTRICTS — Mount Hough Ranger District

Habitat: Dry open flats or slopes, with serpentine or volcanic soils in mixed conifer and ponderosa pine forests.

Elevation: 1100-1800 m (6000-7000 ft)

Key Features: Tree 10-30 m (30-75 ft) high, older bark grayish or reddish, curling off in irregular layers; branchlets found on all sides of the BRANCHES, NOT FORMING FLAT SPRAYS, branchlets slender, less than 3 mm (1/8 in) in diameter; leaves mainly gray-green, scale-like, 3 mm (1/8 in) long, pointed with RESIN PIT ON THE BACK OF SCALE-LIKE LEAVES. Woody cones; male cones 3 mm (1/8 inch) long usually with 8 scales, FEMALE CONES 13 MM (.5 IN) LONG AND 13-20 MM (.5-.75 IN) IN DIAMETER, gray and slightly warty.

Look-alikes: *C. macnabiana* (Macnab cypress) is similar, but the sprays and female cones seperate them. Macnab cypress has flattish sprays and the Baker cypress sprays are more roundish in outline. The Macnab cypress female cone is larger, 1.5-3 cm (.75-1 in), and the Baker cypress female cone is smaller, 1-1.5 cm (.5-.75 in).

Fruiting Time: Summer

Cupressus bakeri

Photo: L.Hanson

Photo: L.Hanson

Erigeron inornatus var. *calidipetris*

Scientific Name: *Erigeron inornatus* A. Gray var. *calidipetris* G. Nesom

Common Name: Hot rock daisy

Family: Asteraceae (sunflower family)

Distribution: GLOBAL — Siskiyou, Modoc, Shasta, Plumas, and Butte Counties, California.
PNF — No known locations on PNF.
DISTRICTS — None

Habitat: Generally in openings in east side pine and lodgepole pine forests, occasionally in white fir forest.

Elevation: About 1770 m (5800 ft)

Key Features: Perennial from a woody root, STEMS several from the crown, curving upwards, TO 10-20 CM (4-8 IN) LONG. PLANTS OBSCURELY HAIRY AND GLANDULAR, WITHOUT A BASAL ROSETTE OF LEAVES, and with many more or less overlapping leaves up the stem 2-6 mm (1/16-1/4 in) wide. Several heads per stem; HEADS WITHOUT RAY FLOWERS.

Look-alikes: Numerous species of *Erigeron* are separated by having ray flowers. Of the species without ray flowers, *Erigeron compositus* (cut-leaved daisy) has divided leaves and is only found on high peaks of the east side; *E. aphanactis* (basin rayless daisy) and *E. austiniae* (Austin's daisy) are generally erect and are only found on the extreme east side; *E. bloomeri* (Bloomer's daisy) has short leafless stems and is also only found on the east side; *E. lassenianus* var. *deficiens* (Plumas rayless daisy) has a distinct basal rosette of leaves; *E. reductus* var. *reductus* (California rayless daisy) has very narrow leaves, only 1 mm (1/32 in) wide; *E. inornatus* var. *inornatus* (rayless daisy) is erect, almost hair-less and without glands, and usually taller; and *E. petrophilus* var. *sierrenses* (serpentine rayless daisy) is obviously hairy and glandular, and with leaves very overlapping along the stem. *Aster breweri* (Brewer's aster) is similar but has stem leaves that are wide at their base and tapering to a pointed tip, has generally erect stems, and is usually taller.

Flowering Time: August through September

Erigeron inornatus var. *calidipetris*

Photo: L.Hanson

Photo: L.Hanson

Erigeron lassenianus var. *deficiens*

Scientific Name: *Erigeron lassenianus* E. Greene var. *deficiens* Cronq.

Common Name: Plumas rayless daisy

Family: Asteraceae (sunflower family)

Distribution: GLOBAL — Plumas County, California.
PNF — Known from scattered locations along a band through central PNF that includes Bean Creek, Monitor Flat, Little Grass Valley, and Scales.
DISTRICTS— Feather River and Mount Hough Ranger Districts

Habitat: In full sun to afternoon shade, in open mixed conifer forest and into the red fir forest, on gravelly, vernally moist flats and swales, both on and off serpentine.

Elevation: 1525-1980 m (5000-6500 ft)

Key Features: Perennial from a woody root, stems several from the crown, curving upwards, up to 20-30 cm (8-12 in) long. Plants with a BASAL ROSETTE OF NARROW LEAVES, 5-15 cm (2-6 in) long and 2-6 mm (1/16-1/4 in) wide, and with few, smaller leaves up the stem. Plants sometimes form clumps or mats. Several heads per stem; HEADS WITHOUT RAY FLOWERS.

Look-alikes: Numerous species of *Erigeron* are separated from this species by having ray flowers. Of the species without ray flowers, *Erigeron compositus* (cut-leaved daisy) has divided leaves and is only found on high peaks of the east side; *E. aphanactis* (basin rayless daisy) and *E. austiniae* (Austin's daisy) are generally erect and are only found on the extreem east side; *E. bloomeri* (Bloomer's daisy) has short leafless stems and is also only found on the east side; *E. reductus* var. *reductus* (California rayless daisy), *E. ironatus* vars. *inornatus* (rayless daisy) and *calidipetris* (volcanic rayless daisy), and *E. Epetrophilus* var. *sierrensis* (serpntine rayless daisy) lack a basal rosette of leaves. California rayless daisy has very narrow leaves, only 1 mm (1/32 in) wide; rayless daisy is erect and usually taller; and serpentine rayless daisy has many overlapping stem leaves. *Aster breweri* (Brewer's aster) is similar but lacks a basal rosette, has stem leaves that are wide at the base and tapering to a pointed tip, and has generally erect stems.

Flowering Time: July through September

Erigeron lassenianus var. *deficiens*

Photo: L.Janeway

Photo: L.Janeway

Erigeron petrophilus var. *sierrensis*

Scientific Name: *Erigeron petrophilus* E. Greene var. *sierrensis* G. Nesom

Common Name: Serpentine rayless daisy

Family: Asteraceae (sunflower family)

Distribution: GLOBAL — Butte, Plumas, Sierra, Yuba, Nevada, and El Dorado Counties, California.
PNF — Known from western and central PNF, all on serpentine.
DISTRICTS — Feather River and Mount Hough Ranger Districts

Habitat: Generally on gravelly or rocky slopes of serpentine, in openings and in open forests from mixed conifer to red fir.

Elevation: 460-2070 m (1500-6800 ft)

Key Features: Perennial from a woody root, stems several from the crown, curving upwards, up to 20-30 cm (8-12 in) long. PLANTS OBVIOUSLY HAIRY AND GLANDULAR, WITHOUT A BASAL ROSETTE OF LEAVES, and with many over-lapping leaves up the stem 2-6 mm (1/16-1/4 in) wide. Several heads per stem; HEADS WITHOUT RAY FLOWERS.

Look-alikes: Numerous species of *Erigeron* are separated from this species by having ray flowers. Of the species without ray flowers, *Erigeron compositus* (cut-leaved daisy) has divided leaves and is only found on high peaks of the east side; *E. aphanactis* (basin rayless daisy)and *E. austiniae* (Austin's daisy) are generally erect and are only found on the extreme east side; *E. bloomeri* (Bloomer's daisy) has short leafless stems and is also only found on the east side; *E. lassenianus* var. *deficiens* (Plumas rayless daisy) has a distinct basal rosette of leaves; *E. reductus* var. *reductus* (California rayless daisy) has very narrow leaves, only 1 mm (1/32 in) wide; *E. inornatus* var. *inornatus* (rayless daisy) is erect, almost hairless and without glands, and usually taller; and *E. inornatus* var. *calidipetris* (volcanic rayless daisy) is also almost hairless and without glands. *Aster breweri* (Brewers aster) is similar but has stem leaves that are wide at their base and tapering to a pointed tip, has generally erect stems, and is not so obviously hairy and glandular.

Flowering Time: June through September

Erigeron petrophilus var. *sierrensis*

Photo: L.Janeway

Photo: L.Janeway

Hackelia amethystina

Scientific Name: *Hackelia amethystina* Eastw.

Common Name: Amethyst stickseed

Family: Boraginaceae (borage family)

Distribution: GLOBAL — Mendocino, Lake, Glenn, Tehama, Trinity and Plumas Counties,California.
PNF— Known from scattered locations along a band along the northern edge of the Plumas Forest, from Indicator Peak to Thompson Peak.
DISTRICTS — Mount Hough Ranger District

Habitat: Openings in forest, meadow edges, and in open forests, from upper mixed conifer to red fir.

Elevation: 1920-2135 m (6300-7000 ft)

Key Features: Stickseeds are tall plants, up to 1 m (3.5 ft), with long, narrow leaves and forget-me-not-type flowers. They are called stickseeds because the fruits (4 nutlets) that form after blooming have prickles on them. Each prickle is tipped with barbs, and looks like a harpoon (visible with a hand lens). The nutlets each have a side that faces outward, with a margin around it. The prickles often vary between the face (facial prickles) and the margin (marginal prickles). Most stickseeds have similar long, linear lower leaves, while the uppermost leaves sometimes vary in shape. All the stickseeds on the PNF are more or less hairy all over. Amethyst stickseed has LEAVES AND STEMS COVERED WITH SHORT (LESS THAN 1 MM OR 1/32 IN), DENSE HAIRS, visible with a hand lens. The UPPERMOST LEAVES ARE WIDE AND ROUNDED AT THE BASE, narrowing to a sharp point. The FLOWERS ARE BLUE, 10-12 mm (.25 in) wide. There are 10-17 FACIAL PRICKLES, WHICH ARE SHORTER THAN THE MARGINAL PRICKLES. Consult expert to verify identification.

Look-alikes: *Hackelia californica* (California stickseed) has white flowers, hairs longer than 1 mm but still only visible with hand lens, 10-26 facial prickles which are about as long as the marginal prickles. *H. micrantha* (small-flowered stickseed) has small blue flowers, 4-6 mm (5/32-1/4 in) wide; hairs longer than 1 mm, visible with hand lens; uppermost leaves tapered to the stem; few (4-10) facial prickles, half as long as the marginal prickles, which are much wider at their bases. *H. nervosa* (Sierra stickseed) has dark blue flowers; hairs longer than 1 mm, visible with hand lens; many facial prickles, same length as marginal; marginal prickles a little wider at the base. *H. setosa* (bristly stickseed) has blue flowers; very long hairs, well over 1 mm, visible to naked eye; uppermost leaves tapered to stem; 9-13 facial prickles, shorter than marginal, marginal prickles wider at base.

Flowering Time: June through July. Need fruits to identify.

Hackelia amethystina

Photo: L.Janeway

Photo: L.Janeway

Ivesia baileyi var. *baileyi*

Scientific Name: *Ivesia baileyi* S. Watson var. *baileyi*

Common Name: Bailey's Ivesia

Family: Rosaceae (rose family)

Distribution: GLOBAL — Lassen and Plumas Counties in California, Northwest Nevada, Southern Oregon and Southern Idaho.
PNF — Dixie Mountain, Little Last Creek.
DISTRICTS — Beckworth Ranger District

Habitat: Rocky, volcanic outcrops in eastside pine and mixed conifer forest.

Elevation: 1600-2600 m (5200-8500 ft)

Key Features: Perennial with mostly basal leaves clumped on a thick and root-like stem that appears to push the leaves above the ground. The 3-10 cm (1-4 in) long BASAL LEAVES ARE DIVIDED INTO 3-6 LEAFLETS, and these are DIVIDED AGAIN INTO SMALLER ROUND LOBES that have points or teeth at the ends. Stems growing from the basal clumps are 5-20 cm (2-8 in) in height, and have 1 or 2 smaller leaves on the stem. The flower stalks often have more than 10 PALE YELLOW FLOWERS, EACH ON A SHORT 2-12 MM (1/8-1/2 IN) STALK that curves in the shape of an S as the fruit develops.

Look-alikes: *Ivesia webberi* (Webber's ivesia) has smaller and more finely dissected leaves than Bailey's ivesia. Webber's ivesia flowers are yellow like Bailey's ivesia but the flowers of Webber's ivesia are clumped together in tightly packed heads, compared to the more open flower stalks of Bailey's. *Ivesa aperta* var. *aperta* (Sierra Valley ivesia) also has yellow flowers but has 20-35 leaflets.

Flowering Time: June through August

Ivesia baileyi var. *baileyi*

Photo: L.Hanson

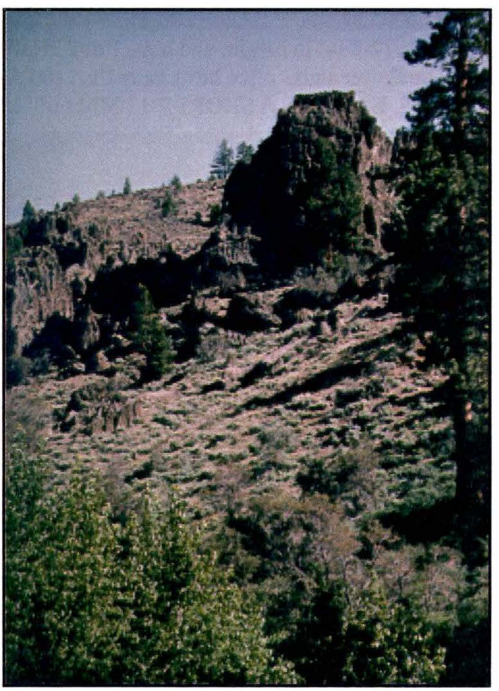


Photo: L.Hanson

Lewisia kelloggii ssp. *hutchisonii*

Scientific Name: *Lewisia kelloggii* M.K. Brandegee ssp. *hutchisonii* Dempster

Common Name: Hutchison's lewisia

Family: Portulacaceae (purslane family)

Distribution: GLOBAL — Southwestern Lassen National Forest, the south-central PNF (Butte and Sierra Counties, California), and the northern Tahoe National Forest.
PNF — Bunker Hill Ridge, Chipps Creek.
DISTRICTS — Mount Hough and Feather River Ranger District.

Habitat: Higher elevation ridgetops and passes. Mostly bare and rocky soil.

Elevation: 1900-2900 m (6200-9500 ft)

Key Features: Perennial with leathery leaves forming a dense basal rosette. LEAVES ARE 4-10 CM (1.5-4 in) SPOON-SHAPED, WIDE AND BLUNT AT THE TIP, AND NARROW AT THE BASE. One to several flowering stalks are short, ranging from 1-4 cm (.5-1.5 in) in height. Flowers white to pink. PETALS ARE 25-30 MM (ABOUT 1 IN) IN LENGTH. There are 2 SEPALS AND 2 BRACTS IMMEDIATELY UNDER THEM, THAT LOOK LIKE THE SEPALS, GIVING THE APPEARANCE OF 4 SEPALS.

Look-alikes: *Lewisia kelloggii* ssp. *kelloggii* (Kellogg's lewisia) differs from Hutchison's lewisia only in overall dimensions. Kellogg's lewisia is smaller, having leaves 2-6 cm (1- 2.5 in), and petals 10 mm (.5 in) long. There are 4 other *Lewisia* species found on the PNF. Three of these are found in moist to wet environments: *L. cantelovii* (Cantelow's lewisia) on vernally wet, rocky cliffs; and *L. nevadensis* (Nevada bitterroot) and *L. triphylla* (three-leaf lewisia) in moist banks, glades and meadows. Cantelow's lewisia has distinctive, toothed leaves, Nevada bitterroot has a loose rosette of narrow, linear leaves, and three-leaf lewisia has no basal rosette, but instead has several linear, threadlike, sometimes 3-parted leaves. *L. rediviva* (bitterroot) is the only other *Lewisia* found in dry, rocky places. It is found in a variety of habitats throughout its range, but on or near the PNF it is known from basalt outcrops on Table Mountain and volcanic scablands on the east side of the Forest. It differs from Hutchison's lewisia in that it has thick, linear leaves and 6-8 petal-like sepals.

Flowering Time: July

Lewisia kelloggii ssp. *hutchisonii*

Photo: L.Janeway

Photo: L.Janeway

Lilium humboldtii ssp. *humboldtii*

Scientific Name: *Lilium humboldtii* Roezl & Leichtlin ssp. *humboldtii*

Common Name: Humboldt lily

Family: Liliaceae (lily family)

Distribution: GLOBAL —Southern Cascade Range, Sierra Nevada Range from Butte County south to Fresno County, California.
PNF — Widely scattered throughout west slope. Forbestown, Pulga.
DISTRICTS — Feather River and Mount Hough Ranger Districts

Habitat: Dry wooded slopes and flats, and openings in ponderosa pine forests and woodlands.

Elevation: 600-1100 m (2000-3600 ft)

Key Features: Perennial herb UP TO 3 M (10 FT) IN HEIGHT. The leaves are grouped along the upright stem in 4-9 tiers. At each tier or whorl, there are 10-20 leaves completely surrounding the stem, creating a starlike appearance. There are 1-40 brilliant ORANGE FLOWERS WITH MAGENTA SPOTS. The flowers hang upside down, with the petals curved back, and the stamens and pistil sticking out. The ANTHERS ARE BROWNISH ORANGE.

Look-alikes: There are three other *Lilium* species growing within the PNF. When blooming, the Washington lily is easy to tell apart because it has white flowers. When not flowering, the Washington lily is usually not as large, 6-15 dm (2-4 ft), and has fewer leaves in each whorl than the Humboldt lily. The other two lilies, *L. pardalinum* ssp. *shastense* (Shasta lily) , and *L. pardalinum* ssp. *pardalinum* (leopard lily), have orange flowers, but are usually found in wetter habitats. Also, the individual leaves of the Shasta and leopard lilies are generally not wavy compared to the Humboldt lily, whose leaf margins undulate. Humboldt lily could possibly occur in the same area as an escaped garden lily. Humboldt lily's maroon spots and brown anthers should separate it from these. Tiger lily (a garden lily), for instance, has black spots on its orange petals.

Flowering Time: June through July

Lilium humboldtii ssp. *humboldtii*

Photo: L.Hanson

Photo: L.Hanson

Mimulus glaucescens

Scientific Name: *Mimulus glaucescens* E. Greene

Common Name: Shield-bracted monkeyflower

Family: Scrophulariaceae (figwort family)

Distribution: GLOBAL —Southern Cascade Range foothills and adjacent northern Sierra foothills south to Butte County. Inner Coast Range in Lake and Colusa Counties, California.
PNF — Pulga, Rocky Ridge
DISTRICT — Feather River Ranger District

Habitat: Moist conditions, often on serpentine soils in the lower coniferous forest.

Elevation: 70-1200 m (200-4000 ft)

Key Features: Erect annual 6-80 cm (3-30 in). Leaves opposite, ovate to round. BRACTS OF FLOWER STALK FUSED, FORMING CIRCULAR DISKS (SHIELD BRACTED). Flowers yellow, on stalks (pedicels) 6-35 mm in length (.25-1.25 in). Mature calyx strongly inflated. Stems and leaves usually with a whitish coating.

Look-alikes: *Mimulus guttatus* (common monkey flower) is a closely related yellow flowered annual that also has bracts at the base of the flower stalks. The common monkey flower differs from shield-bracted monkey flower in that the bracts are fused around the stem only at their bases and do not form a circular disc around the stem. Also, the common monkey flower stems and leaves are not covered with a whitish coating.

Flowering Time: March through May

Mimulus glaucescens

Photo: L.Janeway

Photo: L.Hanson

Mimulus pygmaeus

Scientific Name: *Mimulus pygmaeus* A.L. Grant

Common Name: Egg Lake monkeyflower

Family: Scrophulariaceae (figwort family)

Distribution: GLOBAL — From Sierra Valley in Plumas County, California scattered to Modoc Plateau and southern Oregon
PNF — Known from Squaw Valley
DISTRICTS — Beckwourth Ranger District

Habitat: Seasonally wet flats, drainages, or raw banks on open clay soil. May be found within several vegetation types - silver sagebrush, low sagebrush, or meadow is most common.

Elevation: 980-1710 m (3200-5600 ft)

Key Features: TINY ANNUAL, LESS THAN 1 CM (.5 IN) TALL. Leaves opposite, clustered at plant base. Petals yellow, tubular, two-lipped (having a distinct top and bottom), with 5 lobes and red dots on the throat. Flowers not on stalks, but set right down at the base of the leaves.

Look-alikes: Other similar appearing monkeyflowers in the area *Mimulus suksdorfii* (Suksdorf's monkey flower) and *M. pulsiferae* (candelabrum monkey flower) are taller than 2 cm (.75 in) and have flower stalks.

Flowering Time: May through June

Mimulus pygmaeus

Photo: B.Corbin

Photo: B.Corbin

Perideridia bacigalupii

Scientific Name: *Perideridia bacigalupii* Chuang & Constance

Common Name: Bacigalupi's yampah

Family: Apiaceae (carrot family)

Distribution: GLOBAL — In northern and central Sierra Nevada foothills, in Butte and Yuba Counties, and from Nevada to Madera Counties, California.
PNF — Low elevation, west side, in vicinity of Forbestown and Challenge.
DISTRICTS — Feather River Ranger District.

Habitat: Openings in brush on low elevation serpentine outcrops and red, serpentine derived soils.

Elevation: 650-1000 m (2100-3300 ft)

Key Features: Yampahs (*Perideridia* species) are perennial plants from a tuberous root system, with long , narrow leaves divided into linear leaflets, and umbrella-like clusters (umbels) of many, tiny white flowers. The small (secondary) umbels are grouped into larger, primary umbels, forming compound umbels. Six yampahs are found on the PNF, in meadows and moist to dry openings and rock outcrops. Bacigalupi's yampah is distinguished from other yampahs by its preference for SERPENTINE habitats, by its SPHERICAL (RATHER THAN UMBRELLA-LIKE) SECONDARY UMBELS, and by its LEAFLETS WHICH ARE ALL SIMILAR IN SIZE AND FORM.

Look-alikes: Five other yampahs besides Bacigalupi's yampah occur on the PNF. Of these, 2 are found in moist areas and meadows and so are unlikely to be confused with Bacigalupi's yampah. These are *P. howellii* (Howell's yampah) and *P. parishii* ssp. *latifolia* (Parish's yampah). The other 3 species are *P. bolanderi* ssp. *bolanderi* (Bolander's yampah), *P. kelloggii* (Kellogg's yampah) and *P. lemmonii* (Lemmon's yampah). Bolander's yampah is found in dry, open flats and on rock outcrops. The terminal leaflet in this species is longer than the other leaflets, while in Bacigalupi's yampah the leaflets are all the same size. Bolander's yampah is usually found at higher elevations than Bacigalupi's yampah. Kellogg's yampah is found below 3,000 ft but grows in vernally moist flats and in the dry creekbeds of ephemeral streams. It is unlikely to be found on serpentine. Lemmon's yampah grows in dry meadows and on open forest floor, from low to high elevations. Both Kellogg's and Lemmon's yampahs (and Bolander's as well) can be told from Bacigalupi's yampah by their umbrella-like secondary umbels. Bacigalupi's yampah has spherical secondary umbels.

Flowering Time: Late July to August.

Perideridia bacigalupii

Photo: L.Hanson

Photo: L.Hanson

Rhynchospora capitellata

Scientific Name: *Rhynchospora capitellata* (Michaux) M. Vahl.

Common Name: Brownish beaked-rush

Family: Cyperaceae (sedge family)

Distribution: GLOBAL — Trinity, Sonoma, and Butte Counties of California. Northeastern US.
PNF — Butterfly Valley, Flea Valley, Little Bald Rock, and Concow Meadow.
DISTRICTS — Mount Hough and Feather RiverRanger Districts

Habitat: Marshes and seeps, boggy meadows.

Elevation: 450-1700 m (1500-5600 ft)

Key Features: Grass-like perennial plant. Leaves mostly in a tuft at the base of the plant. Flowering stems taller than the tuft of leaves. Stems 3-angled (triangular in cross-section). Plant superficially resembles a sedge or rush. The floral spikelets are in small, dark brown, dense clusters. Beaked-rush fruits are achenes (small, one-seeded fruits that look like a naked seed). The ACHENES ARE SMOOTH, SHINY, DARK BROWN, and each one has 5-7 LONG BRISTLES (longer than the fruit) surrounding it. The ACHENES ARE TIPPED WITH A TUBERCLE (a beak-like structure; the common name refers to this) that is awl-shaped (wide at the base, tapering to a sharp point), AND ABOUT AS LONG AS THE ACHENE. The TUBERCLE IS CHALKY WHITE.

Look-alikes: Brownish beaked-rush can be told from rushes and sedges by the bristles on its achenes. Neither sedges (*Carex* species) nor rushes (*Juncus* species) have this feature. Rushes have 3 tiny, petal-like sepals and 3 petals around each ovary. Sedges have seeds enclosed in a perigyneum (a sac-like bract), and lack both bristles and tiny petals. Beaked-rushes are most similar to spike rushes (*Eleocharis* species) because both have achenes with bristles and tubercles. Spikerushes differ from beaked-rushes in that they have 1 floral spikelet at the end of the flowering stem, while beaked-rushes have several spikelets per flowering stem. Brownish beaked-rush can occur with *Rhynchospora alba* (white beaked-rush) on the PNF. White beaked-rush has pale, light brown spikelets, 10-12 long bristles per light brown achene, and a greenish awl-shaped tubercle that is shorter than the fruit. Beaked-rushes are inconspicuous and hard to find, also difficult to identify. Consult an expert.

Flowering Time: June to August

Rhynchospora capitellata

Photo: L.Janeway

Photo: L.Janeway

Silene invisa

Scientific Name: *Silene invisa* C. Hitchc. & Maguire

Common Name: Cryptic catchfly

Family: Caryophyllaceae (pink family)

Distribution: GLOBAL —Southern high Cascade Range to Northern high Sierra Nevada, in Trinity, Shasta, Lassen, Plumas, Sierra, Nevada, Placer, El Dorado, Amador, Alpine and Tuolomne Counties, California
PNF — Numerous locations from Pilot Peak to Haskell Peak , Mt. Ingalls and Dixie Mountain
DISTRICTS — Feather River and Beckwourth Ranger Districts

Habitat: White and red fir forests, often found under the drip line of firs next to meadows. Cryptic catchfly grows along the upland margins of alder thickets, moist and dry meadow edges, and seasonal streambanks.

Elevation: 900-2800 m (3000- 9200 ft)

Key Features: Sparsely leafy perennial herb about 30 cm (12 in) tall. The narrow leaves are mostly clustered at the base of the plant, with one or two pairs of opposite leaves widely spaced up the stem. There are one to several flowers at the top of the plant. The pink to lavendar FLOWER PETALS ARE SCARCELY VISIBLE since they barely protrude from the calyx; a sticky, tubular structure with green ribs. Cryptic catchfly is easier to identify later in the season when the tan colored fruit capsules are dry. They are shaped like a tiny urn with teeth at the top. Most *Silene* species are sticky, hence the common name, catchfly.

Look-alikes: The closely related *Silene lemonii* (Lemon's campion) can grow at similar elevations, but the flower petals clearly extend out of the tube and show like a typical flower. Also, the white flower petals of Lemon's campion are separated into four curly lobes. The cryptic catchfly petals are not lobed in this way.

Flowering Time: July through August

Silene invisa

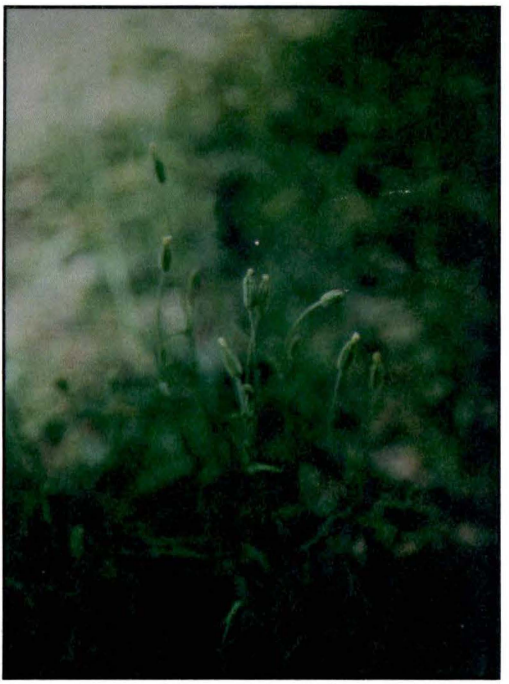


Photo: L.Hanson

Photo: L.Hanson

Trifolium lemmonii

Scientific Name: *Trifolium lemmonii* S. Watson

Common Name: Lemmon's clover

Family: Fabaceae (legume family)

Distribution: GLOBAL — Nevada, Plumas, and Sierra Counties of California, and Nevada.
PNF — On volcanic flats and meadow ecotones east of Grizzly Valley, south of Stony Ridge, to Frenchman Lake and on to Sierra Valley. Main population centers are Squaw Valley area, Squaw Canyon and the Frenchman area.
DISTRICTS — Beckwourth Ranger District

Habitat: Hard pan, volcanic or mixed alluvium meadow ecotones, low sage flats on open terraces or in open yellow pine forest.

Elevation: 1500-1800 m (4900-6000 ft)

Key Features: Perennial, forming small rounded clumps, 3-7 HAIRLESS LEAFLETS with coarsely toothed margins. SMALL FLOWERS ARE WHITE WITH ROSE VEINS, TURNING BLUE AS THEY DRY. Flower stalks terminal.

Look-alikes: *Trifolium andersonii* var. *andersonii* (Anderson's Clover) has silver-gray stems and leaves, 3-7 leaflets, is very low growing with purple or reddish flowers when dried. *Trifolium macrocephalum* (large-headed clover) has 7-9 leaflets.

Flowering Time: June

Trifolium lemmonii

Photo: L.Hanson

Photo: L.Hanson

Viola tomentosa

Scientific Name: *Viola tomentosa* M. Baker & J. Clausen

Common Name: Woolly violet, Felt-leaf viola

Family: Violaceae (violet family)

Distribution: GLOBAL — North to central High Sierra Nevada in El Dorado, Nevada, Placer, Plumas, and Sierra Counties, California
PNF — Mount Ararat, Kellogg Lookout, Mooreville Ridge, Lumpkin Ridge, Scales and Little Grass Valley Reservoir
DISTRICTS — Feather River Ranger District

Habitat: Mixed conifer and red fir forest. Flat, gravelly, usually granitic or dry volcanic openings, with a pine and manzanita overstory in ponderosa pine or lodgepole pine forest.

Elevation: 1500-2000 m (5000-6500 ft)

Key Features: Herbaceous perennial from a taproot, with narrow leaves scattered along the stem. STEMS AND LEAVES COVERED WITH GRAY WOOLLY (matted, intertwined felt-like) HAIRS. Stems 3-15 cm (1- 6 in) long, lying flat on the ground. Leaf edges are not cut or lobed. Flowers are yellow.

Look-alikes: Most of the violets in the area are found in moister areas but *Viola lobata* (pine violet) and *V. purpurea* (mountain violet) have been found with the woolly violet. Pine violet has leaves that are divided into lobes that are at the tip of the stems and mountain violet has toothed leaves that are sometimes hairy but not woolly. *Gnaphalium canescens* ssp. *thermale* (cudweed) is sometimes mistaken for woolly violet because of its gray-green leaves. It doesn't have woolly hairs, however, and it also has a pleasant smell (that the violet doesn't have) when rubbed. *Hieracium albiflorum* (hawkweed) has also been confused with woolly violet. This species has very long, straight hairs sticking straight up on the leaves.

Flowering Time: May through August

Viola tomentosa

Photo: L.Hanson

Photo: L.Hanson